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ABSTRACT

This congressional hearing focuses on the importance of incorporating workplace skills into K-12 education and how H.R. 4078, the Workforce Readiness Act of 1992, might accomplish this. Testimony includes statements and prepared statements of the Secretary of Education, a Representative in Congress, Secretary of Labor, and individuals representing the Institute on Education and the Economy; Council of Chief State School Officers; Director of Vocational-Technical Education--Genesee Intermediate School District, Flint, Michigan; Project BEL (Business/Education/Labor Partnership); and the U.S. Chamber of Commerce. (YLB)

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HEARING ON SCHOOL-TO-WORK TRANSITION

ED353417

HEARING

BEFORE THE

SUBCOMMITTEE ON ELEMENTARY, SECONDARY, AND VOCATIONAL EDUCATION

OF THE

COMMITTEE ON EDUCATION AND LABOR HOUSE OF REPRESENTATIVES

ONE HUNDRED SECOND CONGRESS

SECOND SESSION

HEARING HELD IN WASHINGTON, DC, MARCH 25, 1992

Serial No. 102-126

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HEARING ON SCHOOL-TO-WORK TRANSITION

WEDNESDAY, MARCH 25, 1992

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ELEMENTARY, SECONDARY,
AND VOCATIONAL EDUCATION,
COMMITTEE ON EDUCATION AND LABOR,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m., Room 2175, Rayburn House Office Building, Hon. Dale E. Kildee, Chairman, presiding.

Members present: Representatives Kildee, Hayes, Reed, Roemer, Pastor, Goodling, Klug, and Gunderson.

Staff present: Susan A. Wilhelm, staff director; Thomas Kelley, legislative associate; Margaret Kajeckas, legislative associate; June Harris, legislative specialist; and Mary Clagett, professional staff member.

Chairman KILDEE. The subcommittee meets this morning to hear testimony on the importance of incorporating workplace skills into K-12 education and how H.R. 4078, the Workforce Readiness Act of 1992, might accomplish this.

Economically, the world is a very different place today than it was 40, or 20, or even 10 years ago. The United States has entered into a new era of fierce competition, one in which companies must compete for market shares globally as well as in our own country. A key element in making sure America can meet this challenge is in assuring that we have a qualified and productive workforce. A broad consensus is developing among educators, business, and union leaders that schools can help to create a more highly skilled workforce by more closely linking K-12 education to the world of work.

Schools play, as we know, many roles today. They provide students with the knowledge necessary to lead full lives, to appreciate learning for its own sake, and to be productive citizens to contribute to their communities. An increasingly important role for schools is to ensure that graduating students have the generic skills necessary to enter the workforce ready to perform. These generic work skills are tools which all students can use, whether they enter the workforce immediately upon graduation from high school or continue on to some form of higher education. They also provide the foundation upon which more occupational-specific skills can be built.

This morning's witnesses will address the importance of integrating generic work skills into schools and how this can contribute to increased achievement by enabling students to better understand

that what they do in the classroom has relevance to the world of work.

At this point, I would like to introduce Mr. Goodling, the ranking Republican member of both the subcommittee and the full committee. I notice up here, Bill, that they have two gavels, so I am not sure whether you are going to take over part of this hearing here or not. This is the first time in my 16 years that I have seen two gavels, but help yourself. Mr. Goodling.

Mr. GOODLING. Mr. Chairman, I want to thank you for holding the hearing on school-to-work linkages. I am hopeful that this will be one of a series of hearings. I am pleased that you have chosen not only to draw a pension but to begin the process of addressing issues critically important to the forgotten half of American secondary students, those students who do not plan to continue their education into the postsecondary level.

As you know, 50 percent of American students do not go on to a college or a university after graduating from high school. These students must be ready to enter the workforce upon graduation from high school. The demands of the American workplace have increased in the competency, educational literacy, and technical expertise needed to fill American industry's jobs. If America hopes to remain a competitive leader in the global marketplace, we must ensure that today's youth will be ready to meet industry's needs.

While I realize this hearing is focused on generic school-to-work programs, I believe we need to expand our discussion into the identification and certification of occupationally-based skills. I am pleased with the work and research that is currently being conducted by the Department of Education and the Department of Labor in addressing competencies for specific industries. I am hopeful that the Federal Government can enhance the ability of local educators to meet industry's needs through utilizing the research being conducted. I would respectfully press that we invite the two departments to testify about their work, and I look forward to hearing the testimony presented today.

Chairman KILDEE. Thank you very much, Mr. Goodling.

Some of our witnesses probably have never testified before Congress before. They will note that you, Mr. Goodling as well as Mr. Gunderson, indicate that bipartisan concern for education is a reality. Mr. Goodling brings to this committee intelligence, integrity, and concern. I have always enjoyed working with him. As a result, we have been able to produce some good legislation out of this subcommittee.

Mr. Roemer, do you have an opening statement?

Mr. ROEMER. Yes, Mr. Chairman. I think that this is one of the most important topics that we could be discussing in the United States Congress today. Excuse me, Mr. Chairman, for saying this, but I am extremely disappointed in the turnout from both the audience and the press. Here is a subject that is going to determine how well our children do in the future, how competitive we are as a country, how the American dream is passed on from generation to generation. Sometimes it seems that the press, both in this town and in towns across America, are much more interested in check bouncing or sometimes in trivial issues, rather than an issue of

utmost importance to us as a people and a country and a Nation. For the record, that disappoints me, Mr. Chairman.

I would like to talk a little bit about the transition system in my opening statement. The United States must improve its transition system from the schools to the workplace and, conversely, from the workplace to the schools. I do not think it is a one-way road, that we only need to improve that road going from our school system to the workplace. Our businesses can play a role in helping to solve these problems through internships and intern programs, with money, and with a host of other initiatives. I am hopeful that the duality of the network that we need to build will be touched on in testimony today.

We also need to look at the workforce training issue not only from the perspective of educators, of teachers, of legislators, but also of schoolchildren. Students are coming up with some of the answers to this problem. I am very proud to say that in my home town of South Bend, Indiana, Adams High School has developed an initiative based upon proposals by the students. The program is called "Indiana Plus."

These students went forward, and put a video together, asking potential business leaders, "who are you going to hire and what kind of skills are you going to need in the workforce in the next 10 years?" They went to places like the Marriott Hotel, they went to gas stations, they went to computer companies, they went to universities.

They went to a host of different employers in this "Indiana Plus" program, and after evaluating the answers to their survey, students identified three areas that high school students need to improve in: problem-solving skills, computer skills, and analytical ability. As a result of the program, classes and teachers are now working together at the high school level in helping students get the necessary skills to get jobs immediately upon their graduation from high school.

We have also read about the Oregon program. Different States are experimenting with programs. They are experimenting with a system of a dual track. In 10th grade, you get a certificate of mastery based upon basic skills acquired in the ninth and 10th grade. In the 11th and 12th grade, you go into a track for apprenticeship, intern, vocational-technical training, or a track for college preparation.

These are some of the ideas I hope to hear about, Mr. Chairman, as well as the very important area of in-service training for our teachers. We should see to it that it is a priority that teachers have the time and the ability to keep up with latest trends, both in America and in the rest of the world too. We have to keep careful watch that this training is not the first thing cut in our budgets.

I look forward to hearing some testimony and, again, salute our chairman for having the initiative and the tenacious ability to get these issues out there, and for our ranking member as well, to be interested in these issues that will determine the plight of our children and the competitiveness of the U.S. in the future. Thank you.

Chairman KILDEE. Thank you very much. The Chair will note that my wife attended John Adams High School in South Bend, Indiana.

As important as the press is and as good a job as the press does, the Chair will note that the press ignored the Gettysburg Address of Abraham Lincoln. Another good accomplishment of Abraham Lincoln was the Morrill Act which set up the land grant colleges in this country. Michigan State University is one of those land grant colleges. I think one could argue that the roots of this bill may be found back in that Morrill Act, passed under a great Republican President, Abraham Lincoln. Mr. Gunderson?

Mr. GUNDERSON. Thank you, Mr. Chairman. You are just too bipartisan this morning. I do not know how to deal with this.

I want to thank you for holding this hearing. I hope this is the first of many hearings on this subject that will be held, both by this subcommittee and by the Employment Opportunity Subcommittee, not with the intent of delaying legislation because, as I have told you in the past, I want to join with you in moving a bipartisan package on the whole issue of school-to-work transition.

I think we need to recognize that only 50 percent of all youth in this country go on to college, and only 20 percent of all youth complete college. That suggests, in and of those statistics, that there is a real challenge out there for us that we need to respond to.

In addition, when one looks at the school-to-work transition programs that are in place for high school students across this country today, I think one has to be struck by the fact that less than 4 percent of all high school students in this country are participating in those kinds of programs, which suggests that not only do we need to create more but we need to make sure that students are aware of and participate in them.

I want to pay special welcome, on a bipartisan basis, Mr. Chairman, to our superintendent of schools from the State of Wisconsin. I think I can tell this subcommittee that, to my knowledge, we have only had one educational issue disagreement. That was not just with me, that was with everybody on this subcommittee, on a bipartisan basis. He did not like what we did on a vocational education bill a couple of years ago, but I think we both have grown wiser and more tenacious in our other efforts to work together on a bipartisan basis.

I would suggest to my colleagues—and I have said this before, so I am not saying anything new—if you want the best orator in America on the reason why education and investment in education is important, you need to invite Dr. Grover into your districts and into your States. I say that bar none, and I have said that before. So we welcome you here today and look forward, once again, to having the opportunity to brag about how Wisconsin is leading the Nation in the area of educational progress.

Mr. Chairman, I have been asked by the administration to request that we do make sure that at some future time, before we move legislation, we will make sure that the administration has an opportunity to testify. Both the Department of Labor and the Department of Education very much want to share with you their thoughts and work with you on this particular issue. I would hope that we can accommodate those requests as we move forward.

Chairman KILDEE. The Chair will make every effort to accommodate the administration in some fashion to make sure that their input is included into the committee. Mr. Klug?

Mr. KLUG. Thank you, Mr. Chairman. Let me, along with Steve, welcome Bert Grover here today. Bert is a constituent of mine in Madison. The State of Wisconsin has been a leader, as Mr. Gunderson just said, in the entire education reform movement in the country. Occasionally, the Governor and Mr. Grover have not exactly agreed on what the best way is to proceed in the State of Wisconsin. In the area of technical preparation, I think it is clear, based on some work he and members of the Governor's staff have done looking at the German program, that Wisconsin, to many degrees, especially in the area of preparing non-traditional students and especially in preparing for students who are not going on to college, has done an absolutely terrific job, and you are to be commended for that. It is nice to see you out here, and keep up the good work.

Mr. ROEMER. Mr. Chairman?

Chairman KILDEE. Yes, Mr. Roemer.

Mr. ROEMER. Bipartisanship is one thing, but being ganged up on by two members from Wisconsin bragging about their State is another.

Chairman KILDEE. We are all from the Midwest, so we all have a great deal to be proud of.

Today's witnesses are Dr. Sue Berryman, Director of the Institute on Education and the Economy, Teachers College, Columbia University.

Mr. Goodling reminds me he is not from the Midwest, but you are close enough.

Dr. Herbert J. Grover, who has already been recognized here and is well-recognized throughout the country, Superintendent of Public Instruction, State Department of Public Instruction, Wisconsin; one well known to me, Dr. John Olson, Director of Vocational-Technical Education, Genesee Intermediate School District, Flint, Michigan; Mr. Jack Krueger, UAW Local 659 Training Representative, A.C. Rochester-Flint West, Flint, Michigan; and Dr. Krueger is accompanied by Doug Gould of Mt. Morris Schools, Mt. Morris, Michigan. We also have with us this morning Barbara J. Washburn from the General Motors Corporation who has shown a long-time interest in education. Would the witnesses please take their places at the table?

Dr. Berryman, we will start with you, as that is the order in which we read the names. When we finish all the witnesses, then we will have some questions. You may summarize, if you wish, your testimony. In any case, your entire testimony will be included in the record. So you may proceed in any fashion you wish.

STATEMENTS OF SUE E. BERRYMAN, DIRECTOR, INSTITUTE ON EDUCATION AND THE ECONOMY, TEACHERS COLLEGE, COLUMBIA UNIVERSITY, NEW YORK, NY; HERBERT J. GROVER, SUPERINTENDENT OF PUBLIC INSTRUCTION, STATE DEPARTMENT OF PUBLIC INSTRUCTION, MADISON, WI, REPRESENTING THE COUNCIL OF CHIEF STATE SCHOOL OFFICERS; JOHN OLSON, DIRECTOR OF VOCATIONAL-TECHNICAL EDUCATION, GENESEE INTERMEDIATE SCHOOL DISTRICT, FLINT, MI; JACK KRUEGER, UAW LOCAL 659 TRAINING REPRESENTATIVE, A.C. ROCHESTER-FLINT WEST, FLINT, MI; AND DOUG GOULD, PROJECT BEL COORDINATOR, MT. MORRIS SCHOOLS, MT. MORRIS, MI; ACCOMPANIED BY DOUG GOULD

Ms. BERRYMAN. Thank you. Mr. Chairman and congressmen, I appreciate the honor of being asked to testify on the issue of a National Board on Workforce Skills. My comments are based on research conducted by the Institute on Education and the Economy, the National Center for Research on Vocational Education, and the SCANS Commission.

From this perspective, I want to address three questions for you this morning. Do we need a National Board on Workforce Skills? Should it be a national board, or should the issue be left up to the individual States or local communities? What functions might the board have?

First, let us take, do we need a National Board on Workforce Skills? At the turn of this century, major figures at Columbia and Harvard Universities helped to create what is now known as the College Board. Their objective was to simplify, systematize, and communicate colleges' skill requirements for college entry to high school students and to K-12 educators. I suggest that almost a century later, we need analogously visible and organized information about the skills required for workplace entry. My reasons are, as follows:

The economy is shifting from mass to flexible production. Pressures on U.S. industries are gradually and slowly driving U.S. companies to new and innovative ways of organizing work. These reorganizations of work are blurring the skill differences between higher and lower skill jobs. For example, decision-making, problem-solving, and quality control responsibilities are increasingly being driven down from managerial and specialized personnel to workers on the shop floor.

Schools are still organized, however, to fuel a mass production economy. Schools tend to seriously prepare the B.A.-bound but to merely "carry" the others. This made sense, perhaps, when many of the non-B.A.-bound went into mass production workplaces based on routinized and repetitive work. As Ben Hamper, author of the Riveter Rat, put it: "Working the GM line was like being paid to flunk high school for the rest of your life." Reorganized work destroys the fit between traditionally organized work and education. We now need to take seriously the development of skills in all of our students, not just the B.A.-bound, especially if we want to position them to obtain the middle and high skill jobs that pay wages that let them form and maintain families.

A National Board on Workforce Skills can help to make employers visible and organized customers of the schools, just as the College Board helped to make colleges visible and organized customers of K-12 education. Colleges have been the primary customer of K-12 education, not employers. In other words, K-12 students and educators customarily have organized their activities around post-secondary education. We are consequently in a situation today where the K-12 system is stunningly ill equipped and undisposed to understand the skill implications of the economy as these affect all students, both the B.A.-bound and those whom, traditionally, they have merely "carried."

To focus K-12 schools on another major customer for their services—in other words, employers—we need and lack a technically and politically credible source of information about the foundation and generic workplace skills required across occupations and across industries, the levels of these skills that are required, changes in these skills, and the extent to which possession of these skills in fact predicts to better workplace performance.

My second question is, should the board be a national board, or should it be really left up to the States or to local communities? I argue that the board should be national in scope. States, such as Michigan, Wisconsin, Indiana, Oregon—all the States we were talking about this morning—are already struggling to define the foundation and generic workplace skills required across occupations and industries for people in their own States. However, the task of identifying, establishing levels for, updating, and validating these skills for the workplace is neither technically easy nor is it cheap.

A National Board on Workforce Skills makes sense in an era when we can ill afford the inefficiencies of duplicative State efforts, especially in a domain that is more national than State- or community-specific in nature.

Finally, what functions should the board have? I suggest that the National Board on Workforce Skills focus on the foundation knowledge, foundation skills, and generic workplace skills that individuals need to perform well in a broad range of restructured workplaces. The performance levels set for these skills should position individuals for more specialized education and training. In other words, the board would not focus on industry or occupationally-specific standards but on standards for the foundation and generic workplace skills that enter into industry and occupationally-specific skills.

Within this mandate, I suggest that the board have these functions. The board should update the skills by benchmarking them against best, and changing, international practice.

It should establish the levels of performance that individuals need in these skills in the workplace. Remember that educators have ways of setting levels. They use terms such as "eighth grade reading level" to describe an individual's performance within the school system. Knowing where a person stands on these levels tells us nothing about the reading levels needed in restructured workplaces.

The third function. I think the board must conduct validity studies of the foundation and generic workplace skills. This is simply a technical term for a very simple idea. It just means that the board

determines whether performing these skills well in fact predicts to better workplace performance, and this becomes key in terms of civil rights legislation.

The board should act as a forum and common meeting ground for employers who use the skills and for educators who develop them. This bridge or communication function is particularly important between employers and K-12 educators.

The board should coordinate its activities with those of any national system of industry and occupationally-specific boards.

Finally, I think the board should be a source of information for schools, employers, employees, students, and job applicants about the types and levels of foundation and generic skills required for restructured workplaces.

Should the board have an assessment function? I think the answer here really depends on how the current national assessment debate is resolved. There is a lot of dust out there right now. The board may simply act to ensure that other assessment groups incorporate the types and levels of workplace skills identified by the board into its assessments. It may accredit assessments designed by others or assessment processes run by others.

In sum, almost a century ago, the College Board began to organize and convey colleges' skill needs to K-12 educators and potential college students. The restructuring American economy argues for adding employers as serious customers of the schools. Since the K-12 system is now ill-equipped and undisposed to attend to the skill implications of the economy, an analogue to the College Board, such as the proposed National Board on Workforce Skills, seems appropriate at this junction in our national history.

The board should be national in nature. Its focus should be the foundation and generic workplace skills required across occupations and industries. Its functions should include skill updating, level-setting, validating, and helping to establish lines of communication between employers, K-12 educators, and students.

Thank you very much, Mr. Chairman and congressmen, for your attention. I will be glad to take any questions.

[The prepared statement of Sue E. Berryman follows:]

STATEMENT OF SUE E. BERRYMAN, NEW YORK, NEW YORK

Mr. Chairman, I appreciate the honor of being asked to testify on the issue of a National Board on Workforce Skills. My comments are based on research conducted by the Institute on Education and the Economy and by the National Center for Research in Vocational Education.

From that perspective, I want to address three questions:

Do we need a National Board on Workforce Skills?

Should it be a *national* board? Or should the issue be left up to the individual States or local communities?

What functions should the Board have?

Do We Need a National Board on Workforce Skills?

At the turn of this century major figures at Columbia and Harvard Universities helped to create what is now known as the College Board. Their objective was to simplify, systematize and communicate colleges' skill requirements for college entry to high school students and K-12 educators. I suggest that almost a century later we need analogously visible and organized information about the skills required for workplace entry.

The economy is shifting from mass to flexible production. Pressures on U.S. industries are gradually and slowly driving U.S. companies to new and innovative ways of work. These reorganizations of work are blurring the skill differences between

higher and lower skill jobs. For example, decisionmaking, problem-solving, and quality-control responsibilities are increasingly being shifted from managerial and specialized personnel to workers on the shop floor.

Schools are still organized to fuel a mass production economy. Schools tend to seriously prepare the B.A.-bound, but to merely "carry" the others. This made sense when many of the non-B.A.-bound went into mass production workplaces based on routinized, repetitive work. As Ben Hamper, author of *Riveter Rat*, put it, "Working the GM line was like being paid to flunk high school for the rest of your life." Reorganized work destroys the fit between traditionally organized work and education. We now need to take seriously the development of skills in all students, especially if we want to position them to obtain the middle and high skill jobs that pay wages that let them form and maintain families.

A National Board on Workforce Skills can help to make employers visible and organized customers of the schools, just as the College Board helped to make colleges visible and organized customers of K-12 education. Colleges have been the primary customer of K-12 education, not employers. In other words, K-12 students and educators customarily organize their activities around postsecondary education. We are consequently in a situation where the K-12 system is stunningly ill-equipped and undisposed to understand the skill implications of the economy, as these affect all students, both the B.A.-bound and those whom, traditionally, they have only "carried."

To focus K-12 schools on another major customer for their services (employers), we need and lack a technically and politically credible source of information about the foundation and generic workplace skills required across occupations and industries, the levels of these skills that are required, changes in these skills, and the extent to which possession of these skills in fact predict to better workplace performance (validation).

Should the Board be a National Board?

Should a Board on Workforce Skills be national in scope or left up to the States or local communities?

I argue that the Board should be national in scope. Individual States, such as Michigan, are already struggling to define the foundation and generic workplace skills required across occupations and industries. However, the task of identifying, establishing levels for, updating, and validating these skills for the workplace is neither technically easy nor cheap. A National Board on Workforce Skills makes sense in an era when we can ill-afford the inefficiencies of duplicative State efforts, especially in a domain that is more national than State-specific in nature.

What Functions Should the Board Have?

I suggest that the National Board on Workforce Skills focus on the foundation knowledge, foundation skills, and generic workplace skills that individuals need to perform well in a broad range of restructured workplaces. The performance levels set for these skills should position individuals for more specialized education and training. In other words, the Board would not focus on industry or occupationally-specific standards, but on standards for the foundation and generic workplace skills that enter into industry and occupationally-specific skills.

Within this mandate, I suggest that the Board have these functions:

The Board updates the skills by benchmarking them against best—and changing—international practice.

It establishes the levels of performance that individuals need in these skills. Educators use terms such as "eighth-grade reading level" to describe an individual's performance within the school system, but knowing where a person stands on these levels tells us nothing about the reading levels needed in restructured workplaces.

The Board conducts validity studies of the foundation and generic workplace skills. All this means is that the Board determines whether performing these skills well in fact predicts to better workplace performance.

The Board acts as a forum and common meeting ground for employers who use skills and for educators who develop them. This bridge or communication function is particularly important between employers and K-12 educators.

The Board coordinates its activities with those of any national system of industry and occupationally-specific boards.

The Board is a source of information for schools, employers, employees, students, and job applicants about the types and levels of foundation and generic skills required for restructured workplaces.

Should the Board have an assessment function? The answer seems to me to depend on how current national assessment debate is resolved. The Board may simply act to insure that other assessment groups incorporate the types and levels

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of workplace skills identified by the Board into its assessments. It may accredit assessments designed by others or assessment processes run by others.

In sum: Almost a century ago the College Board began to organize and convey colleges' skill needs to K-12 educators and potential college students. The restructuring American economy argues for adding employers as serious customers of the schools. Since the K-12 system is now ill-equipped and undisposed to attend to the skill implications of the economy, an analogue to the College Board, such as the proposed National Board on Workforce Skills, seems appropriate at this juncture in our history.

The Board should be national in nature. Its focus should be the foundation and generic workplace skills required across occupations and industries. Its functions should include skill updating, level-setting, validating, and helping to establish lines of communication between employers, K-12 educators, and students.

Thank you for your attention. I will be glad to take any questions.

Chairman KILDEE. Thank you, Dr. Berryman. We will go on. Our next witness will be Dr. Grover.

Mr. GROVER. Thank you, Chairman Kildee and Congressmen Goodling, Gunderson, Klug, and Roemer. I hold a non-partisan office, and it is great to be in a bipartisan atmosphere, dealing with a very fundamental issue that absolutely is critical if America is to be a high-skill society and a producer as we try to create economic growth and sensitize the educational system for our children.

I am here today to represent the Council of Chief State School Officers in America, which has made this the theme for 3 years as one of their three major priorities, and I tell you that we are deeply committed to this task and look forward to joining with you in this absolutely imperative and critical societal venture.

I have testimony here to submit to you, and I have the Wisconsin Plan and all the material. Let me tell you a little bit about what we are trying to do in Wisconsin and why we think we are moving in the right direction. Hopefully, you can tune in to some of the things we are attempting and some of the obstacles and some of the challenges that we face.

We recognize, in Wisconsin, that 50 percent of the children go on to school and about 20 percent graduate from college, and 50 percent go on. So we are talking about what do we do with the 80 percent who never graduate from college in Wisconsin. This is a national statistic, I think, as well. In West Germany, about 20 or 25 percent go on to college and 25 graduate. So we are talking about the neglected majority. How do you customize, individualize, humanize, and sensitize the American middle school and high school for the neglected majority so that they can be happy campers and successful in the American enterprise system? We think that requires us to restructure the school.

We have legislation that has been passed that talks about a gateway assessment at the age of 16. Yes, we are going to have some other assessments at 4, 8, and 10 so that you do not catch them at the last moment with a big surprise in life, in terms of whether they have the skill and aptitude in order to exercise choices in the public school system. We are trying to do not only knowledge and skills assessment and development in those areas, but also performance assessment so that when we get to the age of 16, young people will be assessed in terms of their own skill and capability and highly exposed to career alternatives at the seventh and eighth grade so that they know they will be workers, and yes, they can

engage in their own individual choices within the context of the public school.

So then we talk about academic preparation, technical preparation, and youth apprenticeship, those being the options for young people. Some children will take that academic, theoretical pathway in our schools, which I would argue is essentially a description of the secondary schools in America. They are essentially for the college-bound.

How do we describe how good we are? How well we did on the ACT, and how many went on to college. Then we need to think K-14, without postsecondary technical schools and have a competency-based curriculum that is heavily directed around an applied academic program and then postsecondary options when you do not have hands-on vocational programs in your secondary schools into those secondary systems.

Then we need to develop the youth apprenticeship certificates, which we would argue ought to be done under the Department of Industry, Labor, and Human Relations. When you talk about school-to-work, you cannot have it solely in the labor department; you must have the school connection. So we have a governance structure in the Department of Industry, Labor, and Human Relations, involving the postsecondary vocational education people, the elementary and secondary people, business people, and labor people. They will look at labor market information, and then they will have a nomination process around areas that are apprenticeable.

We would argue very strongly that when you develop these apprenticeship certificates, they ought not to be between a single school and a local industry. They ought to be developed and have a statewide aegis. In fact, the contract that we are talking about in our law—when young people at the age of 16 go to work, stay in school, earn the high school diploma, maybe work in the first year at the junior level 30 percent of their time, in the senior level maybe 70 percent of their time—the contract itself ought to be approved by the Department of Industry, Labor, and Human Relations.

We are trying to create options for young people. We are trying to create some high-stakes examination, points of departure, and points of decision making in our school system. For a long time in education, we thought that in the floundering period between the ages of 16 and 28, you were engaged in discovery, and somehow the freedom of all that justified the waste of human resources and the non-direction that we give our young people.

Let me talk about some of our struggle. We are struggling right now in Wisconsin to develop a system of applied academics—applied mathematics, applied science, applied English, applied computer literacy, applied technology—that will be out there in every school district, 424 school districts. We need to develop that at the State level. It cannot be hocus pocus. It must have a core of applied academic descriptive curricula that we are going to have that, hopefully, our postsecondary vocational system impose as we talk about technical preparation and an absolutely competency-based curriculum linking into the postsecondary system.

We then submit that the applied academic curriculum in our high schools will also be the curriculum that young people will take when they exercise the option to go into the youth apprenticeship opportunity. We would argue very strongly that the youth apprenticeship opportunity ought not to be a minimum wage opportunity or sub-minimum wage opportunity. It must have noblesse, and it must pay more than the minimum wage and absolutely show young people that within three or four years, a year or two postsecondary in our technical schools, continuing the applied academic curriculum.

In the workplace, where they are trained with a master craftsperson, where there is testing, where there is a curriculum, where there is assessment and the passage of an expected competency, we would ask that people understand, first of all, that minimum wage does not do it, and secondly that the young people continue to be part of our high schools, earn the high school diploma, and participate in our extracurricular activities, but they are in the workplace, and it will cost business people money to train these people.

We do not need to make the mistake they made in England, where they put national money behind young people who were in the workplace where they just worked, and there was no training program, there was no skills enhancement, and there was no portable certificate upon the conclusion of that work. When the money dried up, there was no skills enhancement in the workforce.

We would argue that when you earn a youth apprenticeship certificate—we are going to start out in printing. That is a big business in Wisconsin, $2.4 billion, 26,000 employees, a high-skill industry. We will apprentice a press operator, an image and plate, and offset photography. These will be apprenticeable areas. We will define that apprenticeship certificate.

Young people will stay in our schools for the applied academic. There might be some customized mathematics or science, based upon the apprenticeship certificate. They will be in the workplace in a training mode, learning these high skills. The apprenticeship certificate will clearly demonstrate it. When they earn the apprenticeship certificate, a year or two of postsecondary, hopefully they will be a high-skilled person with a statewide portable certificate, not a local industry-based, school-related certificate. So they can go anywhere in the State with that certificate and say, "I am a master craftsperson at this."

Then we are going to enter the metals field. Then we are going to enter the government field. Then we are going to enter the health field. We hope to have 100 apprenticeable certificates developed by this committee and the Department of Industry, Labor, and Human Relations, based upon a nomination process and academic work. Then we will disseminate it across the State and engage in contracting to allow young people to go to work and go to school. I think Harold Howe, the former commissioner of education, said it best: "For some kids, the marriage between education and work makes both work better."

That is what we are trying to do in Wisconsin, in a nutshell. We are struggling around what are the conditions of the contract. We are struggling around the applied academic curriculum that must be in every school district. We are absolutely struggling around the

issue of insurance, around the children who will be in the workforce. We absolutely believe that these ought to be jobs that have a forgiveness period when the child enters into the contract of the employer of maybe three months, but after that you are on a pathway to earning an apprenticeship certificate.

We need to deal not only with the minimum wage issue, but we need to make certain that the children are covered when they are in the workforce. We also have to change guidance and counseling in our secondary schools so that we have a new breed of cat talking about workplace expectation and career options and opportunity.

We are uniquely challenged. We are going to do it, and we are going to do it first. We hope to have, some day, as many as 15 or 20 percent of our children in youth apprenticeship types of programs; 30 percent, not 11 percent, going the technical preparation path, right into the postsecondary systems; and maybe only 40 percent of our young people entering our university systems, which must raise their admission standards.

As a special opportunity, we hope that we can work with you. We hope that you understand the necessity of portability of apprenticeship certificates. Of the States' role in this, it cannot be between an LEA and a local industry; if the local industry leaves, the child is left essentially with nothing of portability or statewide imprimatur and significance.

Then we are going to put the horizontal in. We will have the apprenticeship certificate. In another semester, you will have a 2-year associate's degree in a technical college. We already have it in the State law in Wisconsin: 15 credits from a 2-year associate's degree into college parallel. So in fact, what we are doing is pathwaying young people to success, recognizing that we all learn at points in time differently, and raising the standards from the GED to the Ph.D. Thank you.

Chairman KILDEE. Thank you very much, Dr. Grover.

[The prepared statement of Herbert J. Grover follows:]

STATEMENT OF HERBERT J. GROVER

Mr. Chairman, members of the subcommittee, I appreciate this opportunity to represent the Council of Chief State School Officers on H.R. 4078, the Workforce Readiness Act of 1992. We commend you for taking the initiative to introduce legislation on an issue that is vital to the long-term quality of life for our youth, and to our Nation's economic competitiveness—strengthening the connection between school and employment for all students.

The United States does not have an adequate nationwide, public-private partnership for youth apprenticeships and workplace learning programs. We must develop such a system with the shared responsibilities and commitments of business, labor, and education to assure systematic access to and success in the workplace for high school graduates, whether they plan to enter the workforce immediately after graduation or choose to a combined program of employment and postsecondary study.

Federal, State, and local governments together with education, business, and labor must engage in a major effort of analysis, planning, and implementation of a new system. At the Federal level, several programs exist including: Vocational Technical Education, Job Training Partnership Act, Family Support Act, training through service in the armed forces, and others. They provide part of a system, but not the whole. We welcome this opportunity, Mr. Chairman, and other members of the subcommittee and Congress, to join with you in establishing a larger system which connects school and employment for all youth.

In 1991, our Council launched a 3-year initiative on *Connecting School and Employment*. I am pleased to present copies of three of our printed reports and information about our policy and the related activities we have undertaken.

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Our Council has taken the lead to launch policy initiatives in ten States which will result in system change. The States are ready to act, but we need to work in concert with Federal actions. I can best demonstrate this point by telling you about our Wisconsin experience to strengthen preparation for employment.

In 1991, the Wisconsin Governor's Commission for a Quality Workforce recommended that our State:

Adopt outcome-based learning and competency-based education in public elementary and secondary schools, including redesigning the high school curricula to prepare the noncollege-bound student for technical careers.

Establish a Certificate of Initial Mastery as a prerequisite for high school juniors to participate in tech-preparation, youth apprenticeship, and/or college-preparation programs.

Expand guidance and counseling for youth in the K-12 system to help all students, not just the college-bound, focus on the transition to the workforce.

Improve education programs for youth at risk of dropping out of school by increasing access for all students to technical education and upgrading occupational education in our technical colleges.

We know that work has become more complex and knowledge-intensive; jobs will require higher levels of reading, oral communication, mathematical analysis, and problem-solving skills from our high school graduates. However, in the shrinking pool of young workers, the majority will come from homes that are economically and educationally disadvantaged, and most will not acquire needed academic and employment skills unless significant changes are made in both education and employment systems.

Front-line workers in a technical and globally competitive economy must be more highly valued in America. Our society continues to place high priority on preparing youth for enrollment in baccalaureate college programs. Fifty-two percent of Wisconsin's high school graduates enroll in college immediately after high school graduation. That's 30,000 out of approximately 60,000 youth. Yet, through research conducted by the University of Wisconsin, we know 50 percent of these college entrants will not earn a baccalaureate degree. These college drop-outs are often ill-prepared for entry into the State's workforce.

Meanwhile, only 11 percent of our State's high school graduates go immediately to our technical colleges to receive occupationally-specific education in associate arts degree and certificate programs. In fact, the Wisconsin auto and truck dealers have had to mount a campaign to recruit 700 young people annually for employment in their technical jobs by giving scholarships to high caliber high school students to pursue automotive technology programs at the technical colleges.

In Wisconsin, business, labor, government, and education leaders have united to focus the energy and resources of the K-12 public school system to provide school-to-work transition for all students.

Wisconsin is establishing a tenth grade gateway assessment system, with knowledge and concept testing as well as performance-based assessment so that students can earn a Certificate of Initial Mastery.

Wisconsin has established a *Postsecondary Enrollment Options Program* which allows high school juniors and seniors to enroll not only in college courses but also in technical schools while completing their high school graduation requirements.

Wisconsin is studying its K-12 guidance system with the goal of providing meaningful, integrated job counseling patterned after the German youth counseling system. If tenth graders are to make informed choices about tech-preparation, youth apprenticeship, and/or college-preparation, they need to know all about jobs, career paths, education, and training requirements.

Wisconsin has established one of the first statewide Youth Apprenticeship Programs in the Nation. Business, the State's Department of Labor, and the State education agency are cooperatively developing youth apprenticeships through work-based learning in significant State industries, i.e. printing, metal fabrication, health care, and government services. High school juniors and seniors who have passed the gateway assessment, will earn while they learn and ultimately acquire both a high school diploma and a portable, statewide certificate of occupational mastery.

These are Wisconsin's first bold steps, but we can't do it alone. We, and other States, need Federal leadership to energize school-to-work initiatives within the context of educational reform efforts. Connecting all students to the importance of work and the value of meaningful employment with a solid career-wage progression, health insurance, and the capacity to support a family unit, is vital to the survival of the American middle class.

Federal support and leadership for the high quality, work-based learning characteristic of European-style youth apprenticeship is essential for marketing the concept of apprenticeship to American youth and their families. But, any systemic change in education which stresses the ability to obtain and retain gainful employment after high school as honorable and valuable, demands that business radically alter its role in the social contract with the school. The value of being a highly skilled worker has to be apparent to youth, in fact, to everybody. Business has for too long sent the message that front-line workers are dispensable. It pays high salaries to executives, leaving its workers undertrained and devalued. Youth have to get a clear message from employers as well as educators that if they learn well, they will get paid well.

Youth will not flock to the earning and learning associated with youth apprenticeship if such apprenticeships are based on subminimum wage allowances, low-level skill training, and a lack of connection with school sponsorship credentials like a diploma. Our European competitors highly value youth and expect all partners—business, labor, and education—to support development. They know youth are worthy of significant financial resource investment. America must also make this investment in its youth, but must not disconnect youth apprenticeships from K-12 school restructuring workforce skills policies and proposals in States across the Nation.

Key to human resource investment is enactment of legislation to "bring down the walls" between defense and domestic discretionary spending which were set up in the Budget Enforcement Act of 1990. The House-passed budget resolution contains a plan for investing two-thirds, or $6 billion of the $10 billion defense savings in domestic programs.

That can make a $2 billion difference to our resources available for existing education programs as well as new initiatives such as H.R. 4323 and legislation to support the transition from school-to-work. Without that resource and a very fundamental reordering of American spending priorities, the critical needs on which this hearing focuses will remain unmet. As the several initiatives for preparing youth for employment are molded into new Federal policy, we urge these central provisions:

The program must support systemwide policies and require State and local plans which link Federal and State resources. These plans must be an integral part of comprehensive reform strategies as provided through the Neighborhood Schools Improvement Act (S. 2/H.R. 4323). Preparation for employment cannot and must not be isolated from the other parts of secondary education programs.

The program must provide for coordinated administration at the Federal, State and local levels by education, commerce, and labor agencies.

The program must assure collaboration among employers, employees, and educators to determine program design, standards, and assessment. It must provide for standards on an industry-by-industry basis.

The program must match the resources to be committed to the magnitude of the task of serving millions of American youth. This cannot be a demonstration or pilot effort, but must support systemwide change. This means substantial investment in resources for youth apprenticeship, tech-preparation, and workforce learning beginning in the secondary years and continuing through regular employment.

Mr. Chairman and members of the subcommittee, we are addressing the fundamental issue of education for the majority of our youth. We must serve them with more effective ways to prepare for productive employment, not just for the first job but for a productive employment career. We look forward to working with you in meeting this challenge. Thank you.

Chairman KILDEE. My good friend from Flint, Michigan, John Olson.

Mr. OLSON. Thank you, Mr. Chairman. I am very pleased to be here to comment on your Workforce Readiness Act of 1992.

As a vocational educator and administrator in Genesee County, in Flint, Michigan, I can attest to the fact that we are living the dramatic change that people must experience to be employable, not only in the future but in the present and particularly in the auto industry. Our community, as you are probably well aware, is almost totally dependent on the auto industry, and we have suffered immensely, economically and emotionally, over the past 10

years as the American auto industry has struggled for its very survival.

The people in our community have been literally shaken to their very core, not only from the economic devastation but also emotionally from the change that they must make in their lifestyles, as well as their education, in order to be employable and to have the standard of living that we have had for many years and enjoyed in Michigan, and particularly in Flint.

We have spent most of our time in the last 10 years trying to survive, to minimize our losses. While we have been doing that, we have been pointing a lot of fingers at all kinds of institutions, including this one, the Federal Government, the State government, education, labor unions, and even corporate America, trying to figure out who is to blame for this economic mess and the situation in Flint.

The fact is that we are all to blame for not recognizing the impact that the world economy, as well as technology, has on all of us. We must accept that responsibility and get on with what I would call a course correction necessary to keep this country as a world leader as we have enjoyed for most of our brief history.

What we need is to chart that course on what skills in our workforce must be to compete in the future. That is why a National Board on Workforce Skills is needed and needed now. Our educational system, as well as all the other institutions in this country, need a unified set of directions or standards to help motivate the necessary change in the way each of us does our job.

Looking back in history, I could not help but think about my freshman year in high school, a while ago admittedly, 1957 to be exact. The Russians orbited a satellite called Sputnik, and my generation, often referred to as the Sputnik generation, began. Our Federal Government at that time stepped forward and charted a course to make our technology the very best in the world. We put both our economic as well as our human resources to task, and we did it. We put the first person on the moon. America truly is an amazing country when we focus.

This crisis, however, is about far more than a satellite, about far more than putting one person on the moon. It is about our way of life and our standard of living for each and every one of our people in this country. It needs, in fact demands, that our government take a leadership role. You must provide directions or standards and also that much needed economic support to get us started. There are a lot of good ideas out there that could make significant differences if the direction were more definitive and the resources were available.

I have included in my written testimony several ideas, and you have that already in the yellow booklet, that Genesee Intermediate School District and the State of Michigan have been working on. You will hear later from a district in our county that is currently working on a project with industry. I am sure that across America, as I well know visiting here last week with some of my colleagues, that there are hundreds of ideas, for Americans have never lacked in creativity in the way to solve problems. What we need from our government is to chart that course by giving us the standards for workforce readiness and the economic means to reach them.

This bill, introduced by the Chairman, is a giant step, in my mind, in the right direction. We must also recognize that this is not just an educational problem. If it is going to work, business, labor, government, churches, families, all must assume a significant role and responsibility for training our workforce. I recently reviewed H.R. 3320, Congressman Kildee's bill, the Neighborhood School Improvement Act. From my perspective, this bill, the one we are working on today, complements the efforts of school reform very well.

In 1988, Michigan established an Employability Skills Task Force, comprised of leaders of industry, labor, government, and education. They commissioned a survey of over 2,700 employers to determine what entry level employability skills were perceived by our employers as being important. I have included an executive summary as part of my written comments, and I hope you will take the time to look at it.

They were categorized into three general areas: academic skills, personal management skills, and teamwork skills. It was the intent of our legislation in Michigan to make an employability skills test a part of our State testing system. What we discovered was that many of these tests were not usable with both pencil and paper, unlike mathematics or English and many of the things that we currently test. As a means of verification of employability skills, our State has mandated, beginning this fall, a student portfolio as part of a graduation requirement for all entering freshmen. We will be able to document, hopefully, those skills in all three areas that students have.

This has been the start of a number of projects in Michigan and in our county. As you look at my written testimony, there are a number of different things in there that are really great ideas, where we are using technology, for example, to maintain student records, not by As, Bs, Cs, Ds, and Es but by actual tasks. We have taken some of Wisconsin's work and infused the employability skills into some of our curriculum on a K-12 basis in a pilot project.

A number of these projects that you will read about in my written testimony are not to fruition and working at this point of time because they need resources, quite frankly. I feel that if we can get this particular piece of legislation passed and the focus of this Nation on the workforce skills, we will go a long way toward meeting our goal of getting our students ready for the workforce.

Just last night, after I left Michigan, my board of education, which serves 21 school districts, has decided, even in tough economic times, to try to come up with some local revenue. We are asking for a half million dollars on a countywide basis to implement many of these projects, particularly those that my colleague from Wisconsin just talked about: academic skills, particularly in applied academics area, as well as technology education, being part of this half million dollars. We are hopeful that our taxpayers and the people in my community who have suffered so greatly will see this need and will come to support education across our county in this endeavor.

Thank you again for your invitation, Mr. Chairman. I will be happy later to entertain any questions.

[The prepared statement of John Olson follows:]

STATEMENT OF JOHN C. OLSON, FLINT, MICHIGAN

The State of Michigan and the Genesee Intermediate School District (GISD) have been actively involved in school-to-work transition for several years.

The role of an intermediate school district in Michigan is to act as a regional service agency that assists local school districts by providing special education, vocational education and general education support services, such as curriculum development, finance, transportation and child accounting. Genesee Intermediate School District has 21 local districts ranging in size from 29,000 K-12 to under 600 K-12.

Our State has had employability skills training as part of vocational education since the early 1970's. In the late 1980's, with the decline of our manufacturing economy, the issue of employability broadened to a general education issue.

In 1988, our State government appointed the Michigan Employability Skills Task Force, made up of leaders from business, industry, labor, government and education. They commissioned an extensive study of the perceived employability skills needed by over 2,700 selected employers in our State. An executive summary is included (see Appendix A).

The intent of our legislature was to add an employability skills test to our State's testing program. What we learned from the study was that the personal management skills and teamwork skills were not easily or accurately "testable" in our traditional paper and pencil format. From this conclusion, several State and local initiatives have evolved.

On the State level, two major actions have been taken. First, the Michigan Educational Assessment Program (MEAP) has developed a portfolio plan for use by local school districts. A summary of the plan is included in Appendix B. The total plan is available from your legislative associate Tom Kelly. Second, our school aid bill for 1992-93 requires the local school districts to develop a plan for implementing student portfolios for all students. A summary of this effort is included (see Appendix C).

Within GISD, we are involved with two major projects to help our local school districts deal with the employability skills curriculum.

First, as part of our computerized Instructional Management Services, we have taken the employability skills objectives from the Wisconsin system (Michigan's was not yet available) and integrated them into existing K-12 curriculum. Each objective is cross-referenced with other content areas so that teachers will see the units and activities as supporting and extending learning in content areas. A sample of this work is included (see Appendix D).

Our second major effort is to create an electronic portfolio system. Management of student portfolios for large numbers of students can be a burden and expense to our local school districts that are already financially in trouble. We are currently working with 11 local districts in developing a pilot system (see Appendix E).

Several of our local districts are working on employability skills projects as well. They are the Flint Community Schools, Grand Blanc Community Schools, and the Clio Area Schools.

Because of the size of the Flint Schools (K-12 is nearly 28,000 students), they support their own computer system. They are planning a computerized portfolio system that will be part of their internal computer system. A summary is attached (see Appendix F).

Grand Blanc Community Schools has made "workforce readiness" a part of their goal in their 5-year plan. In cooperation with Mott Community College, they have developed a proposal that provides students with an Employability Development Plan (EDP) (starting at grade 8), implemented technology education classes in grades 7-10, provided "applied academics" classes (grades 9-12), and developed core curricula with Mott to link vocational classes to postsecondary training (see Appendix G).

Clio Area Schools is also making an effort to implement a student portfolio project. They intend to computerize this effort also (see Appendix H).

Most of these efforts have been made possible by small grants or limited local funds. While they are good models, they lack the consistency of direction and the necessary funds to get them off the ground and effectively serve our total student population. We have worked enough to know how valuable this effort can be to future generations. That is why we support this legislation, H.R. 4078, so strongly. Your focus with a National Board on Workforce Skills, along with your financial

support to bring some of these great ideas to action, will go a long way toward helping future generations keep this country as the leader of the world.

[Additional material follows:]

APPENDIX A

The Michigan Employability Skills Survey 1989

Executive Summary

The Michigan Employability Skills Survey was conducted by the Michigan Department of Education among a carefully selected representative sample of Michigan employers. The survey items were developed with input from the Michigan Employability Skills Task Force, comprised of leaders from industry, labor, government, and education. Over twenty-seven hundred employers responded.

Employability skills were defined in three broad areas: Academic, Personal Management, and Teamwork Skills. These were refined into 26 sub-classifications, which were further divided into 86 specific skills and behaviors. The employers were asked to respond to this list of 86 skills and behaviors.

Major Findings

- Nearly all of the skills received very high ratings, indicating a high level of need for most of the skills found on this survey.
- A major emphasis on Personal Management skills was demonstrated by employers, with 5 of the top 7 skills coming from this category. Demonstrating honesty, being drug free, showing respect and pride in one's work, and having good attendance were in this group. Two academic skills relating to verbal communication were also in this category.
- The next highly rated set of skills included the academic skills of asking and answering questions, and basic reading. This set also included the personal management skills of work enthusiasm, requiring minimum supervision, initiative, work quality, being productive under pressure, and demonstrating self-control. Three of the teamwork skills also ranked at this level.
- The more specialized Academic Skills, while rated as needed, varied according to the degree of specialization required by different industries. Since employers were asked to rate the skills needed by all employees, such specialized skills as foreign language, biology, chemistry, and physics had the greatest variation, indicating that they were considered highly important to some jobs and industries, and not so important to others.

Comparative Results

Expanding Industries: The responses from employers who had recently hired a substantial number of new employees were compared with those from the group as a whole. The mean differences were less than one point on the scale, but "computers and data processing" showed a higher need among the employers with a growing work force, as did "sensitivity to women and minorities" and "safety awareness." Surprisingly, "creativity" and "the ability to follow complex instructions" were seen as less necessary in this group.

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Goods-Producing and Service Industries: Safety-related items were judged more important in the goods-producing industries than in the service industries, as were the calculating, measuring, and estimating skills. Since only 20 percent of employers are from the goods-producing sector, this may explain the relatively low ranking of these skills in the survey as a whole. In contrast, the information processing and grooming skills were more important in the service industries.

Industry Type: When industry type was considered, Finance, Service, and Public Administration tended to rank the skills higher than Agriculture, Construction, Manufacturing, and Retail Trade. In particular, computer-related skills were rated much higher by the Finance industry than the average of all respondents. This ranking was higher still among the Finance employers who were expanding their work force.

Industry size: In general, the larger the size of the firm, the more highly rated were the skills. In particular, computer and data processing skills tended toward "highly needed" in the larger companies and "somewhat needed" or less in the smaller companies.

Open-Ended Questions: When the employers were given an opportunity to respond to an open-ended question about present and future impact of changing technology and management processes, a somewhat different picture emerged. "Reading" was mentioned most frequently, followed by "values and ethics," "spoken language," and "use of tools and equipment." Academic skills were mentioned 2,506 times, Personal Management skills received 1,699 mentions and teamwork skills 498. This finding was different from the analysis of the responses to the 86 items. Perhaps employers expect sufficient change in the workplace to modify priorities, or perhaps there is an incongruence between what is presently necessary and what they would like to see in the future.

Implications

For Schools: The contrast presented in the previous paragraph highlights the dilemma faced by the schools in responding to the information from the survey. The major message for the schools is that employers are as much concerned with Personal Management and Teamwork Skills as they are with the Academic Skills. Although education for employment is not the only purpose of the schools, the findings clearly argue against a rigid and narrow academic approach to schooling. The implication is for schools to see these results as part of their mission, and to strive to improve in the areas identified while at the same time keeping hold of the broader mission that a full education requires.

For Business: Although the schools may improve the refinement of generalizable skills among their students, there will always be specific skills unique to the workplace, and to certain facets of the workplace, that cannot be provided by formal and universal education. Employers must expect to continue to provide special training for these skills. It is certainly possible for employers to work cooperatively with local schools for specific training (for example, certain apprenticeship programs could share staff and facilities with secondary education agencies), but employers must continue an active investment in training which is specific to their needs, along with an active and ongoing partnership with the schools in helping to define the curriculum.

For further information contact:
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Lansing, Michigan 48909

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Chairman KILDEE. Thank you very much, Mr. Olson. I will go on record right now as saying I will support that vote in Genesee County. The people of Genesee County have had a remarkably good record in supporting education, and I think one of the reasons is that we do deliver good services under some very adverse economic situations. So I will go on record as supporting that, and you may deliver that message to Dr. Spadoff.

Our next witness now is Mr. Jack Krueger from UAW Local 659 in Flint, Michigan, a local very dear to me. He is accompanied by Mr. Doug Gould, who I understand will be prepared to respond to questions. Mr. Krueger will make the statement. Jack, you may proceed.

Mr. KRUEGER. Thank you, Mr. Chairman and members of the committee. It is a pleasure to have the opportunity to speak with you on behalf of Project BEL, a joint partnership linking business, education, and the labor communities—hence the BEL acronym—in Flint and Mt. Morris, Michigan, to achieve a common objective: the integration of workplace literacy skills into the workplace and educational environments.

The partnership was conceived in the summer of 1989, when a representative of the Flint West Plant of A.C. Rochester Division of General Motors located in Flint, Michigan, and a teacher from the Mt. Morris, Michigan Consolidated School District discussed the fact that both organizations, the A.C. Rochester Division and the Mt. Morris School District, were working on a common project, addressing workplace literacy skills. The business community was addressing the issues with its existing workforce. The educational community was charged with the responsibility of preparing students with the skills necessary to enter the business community.

The next step in the formation of the partnership was the identification of all the stakeholders. It was recognized from the outset that labor was a major stakeholder. Representatives from Local 659 of the United Automobile Workers of America, who represent workers at A.C. Rochester Flint West, and the Mt. Morris Education Association, the professional affiliate of the Mt. Morris School District teaching staff, were included as active participants in the partnership from its inception.

The partners agreed that a new method and concept must be developed and established to meet the changing workplace literacy needs of present and future employees and students. An outgrowth of the partnership was the creation of a set of teaching modules that can be used in schools and in the business and industrial world. It made sense to combine resources to develop lesson plans and other materials which can be used to teach workplace literacy. Mt. Morris schools will use the teaching modules this year with over 1,000 high school students. These modules will be adapted for use by many of the approximately 3,600 employees at A.C. Rochester Flint West and UAW Local 659. The modules have the potential of being implemented in any employee or educational training program.

Surveys conducted with plant employees and students from Mt. Morris consolidated schools indicated that students were graduating from high school without the skills they will need in the workplace of the future. It also was apparent that the workforce of

today needed training and retraining skills to match the changing pace of technology. In other words, education needs to become a lifelong learning process for both students and employees.

This research indicated a need to focus on workplace literacy skills in ten areas: communications, math, computer literacy, self-awareness, critical thinking, careers and decisionmaking, employability and job seeking, interpersonal, learning how to learn, and leadership and organizational effectiveness. These skills are the foundation being used in developing future training programs and curricula for students and employees to better meet job-related requirements.

The Mt. Morris curriculum was developed by teachers and trainers working together at A.C. Rochester Flint West during the summers of 1989, 1990, and 1991. The partners shared resources to produce lesson plans and other course material that can be adapted for use by both high school students and working adults. Curriculum has been developed to teach workplace literacy skills for implementation into the Mt. Morris High School grades 9 through 12.

The new, redesigned curriculum includes teaching strategies and activities to enhance existing academic, vocational, and technical preparation curriculum at both sites. Through this joint partnership, attention has been focused on the education and training needed to enable all students and employees to successfully participate in a highly competitive workplace.

An educated workforce is essential in assuring survival in the growing world marketplace. This program has been designed to be used as a model, applicable to any business or educational institution nationwide. A key point in the partnership's development was a willingness to improve on basic instruction in areas business and labor felt were important to a student's future employability. Examples of these skills are team building and communications. These skills came about as a result of new business leadership styles which focus on joint employee involvement and more participation in the decision-making process.

It is important that a systematic approach to education and training be implemented that is cost effective and delivers the desired results. Business and education cannot afford to waste training dollars and training efforts. Training modules must be appropriately focused and deliver expected student/employee outcomes. These are the objectives of the training efforts at A.C. Rochester Flint West, where over 600,000 hours of employee training were completed in calendar years 1990 and 1991.

Each of the partners brings unique views, qualities, and expertise to the partnership. Business provides information and experience to identify skill upgrades needed by current workers in the modern workplace. Education is addressing the new technologies and the business training needs by providing the methodology to train existing workforces and prepare students for future entry into the workforce. Labor, the last stakeholder, is the recipient of these training opportunities.

Education and training is one avenue to help restore economic leadership in a world market. Project BEL is a continuing process that provides a systematic approach to education and training, based on measurable student and employee outcomes. Measure-

ment tools used to evaluate E. A. Johnson's, a high school in Mt. Morris.

Student achievement in the targeted literacy skills areas have shown a 48 percent increase in overall student grade point levels. Business outcomes are reflected in improved productivity, quality, and attendance performance. Our focus of providing a systematic approach to education continuously addresses the issues of feasibility, accountability, and practicality.

America's greatest resource is its people. Project BEL has effectively integrated a hidden resource, America's teachers, into the business environment to deliver workplace literate adults for the 20th and 21st centuries. Thank you, Mr. Chairman.

[The prepared statement of Jack Krueger follows:]

PROJECT BEL

BUSINESS - EDUCATION - LABOR PARTNERSHIP

AC Rochester Division
Flint West Plant
General Motors Corporation
Flint, Michigan

Mt. Morris Consolidated Schools
Mt. Morris, Michigan

Local #659
United Automobile Workers
Flint, Michigan

Mt. Morris Education Association
Mt. Morris, Michigan

March 25, 1992

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EXHIBIT A

Text of presentation by Jack E. Krueger, Jr. to the Subcommittee on Elementary, Secondary, and Vocational Education Wednesday, March 25, 1992, Rayburn House Office Building, Washington, D.C.

Mr. Chairman, Members of the Committee

It is a pleasure to have the opportunity to speak to you on behalf of Project BEL, a joint partnership linking the business, education and labor communities (hence the BEL acronym) in Flint and Mt. Morris, Michigan, to achieve a common objective -- the integration of workplace literacy skills into the workplace and educational environments.

The partnership was conceived in the summer of 1989 when a representative of the Flint West Plant of AC Rochester Division of General Motors located in Flint, Michigan, and a teacher from the Mt. Morris, Michigan Consolidated School District discussed the fact that both organizations -- AC Rochester Division and the Mt. Morris School District were working on a common project -- addressing workplace literacy skills. The business community was addressing the issue with its existing workforce. The educational community was charged with responsibility of preparing students with the skills necessary to enter the business community. The next step in the formation of the partnership was the identification of all of the stakeholders. It was recognized from the outset that labor was also a major stakeholder. Representatives from Local #659 of the United Automobile Workers of America (UAW) who represent workers at the AC Rochester Flint West Plant, and the Mt. Morris Education Association, the professional affiliate of the Mt. Morris School District teaching staff were included as active participants in the partnership from its inception.

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EXHIBIT A

The partners agreed that a new method and concept must be developed and established to meet the changing workplace literacy needs of present and future employes and students. An outgrowth of the partnership was the creation of a set of teaching modules that can be used in schools and in the business and industrial world. It made sense to combine resources to develop lesson plans and other material which can be used to teach workplace literacy. Mt. Morris Schools will use the teaching modules this year with over 1,000 high school students. These modules will be adopted for use by many of the approximately 3,600 employes at AC Rochester Flint West and UAW Local #659. The modules have the potential of being implemented in any employe or educational training program.

Surveys conducted with plant employes and students from the Mt. Morris Consolidated Schools indicated that students were graduating from high school without the skills they will need in the workplace of the future. It also was apparent that the workforce of today needed training and retraining skills to match the changing pace of technology. In other words, education needs to become a life long learning process for both students and employes. This research indicated a need to focus on workplace literacy skills in ten areas:

-- Communications
-- Math
-- Computer literacy
-- Self-awareness
-- Critical thinking
-- Careers/decision making
-- Employability/job seeking
-- Interpersonal
-- Learning how to learn
-- Leadership and organizational effectiveness

These skills are the foundation being used in developing future training programs and curriculum for students and employes to better meet job-related requirements.

The Mt. Morris curriculum was developed by teachers and trainers working together at AC Rochester Flint West during the summers of 1989, 1990, and 1991. The partners shared resources to produce lesson plans and other course materials that can be adapted for use by both high school students and working adults. Curriculum has been developed to teach workplace literacy skills for implementation into Mt. Morris High School grades 9 - 12. The new redesigned curriculum includes teaching strategies and activities to enhance the existing academic, vocational, and technical preparation curriculum at both sites. Through this joint partnership attention has been focused on the education and training needed to enable all students and employes to successfully participate in a highly competitive workplace. An educated workforce is essential in assuring survival in the growing world marketplace. This program has been designed to be used as a model, applicable to any business or educational institution nationwide. A key point in the partnership development was a willingness to improve on basic instruction in areas business and labor felt were important to a student's future employability. Examples of these skill areas are team building and communications. These skill requirements came about as the result of new business leadership styles which focus on joint employe involvement and more participation in decision making.

It is important that a systematic approach to education and training be implemented that is cost effective and delivers desired results. Business and education cannot afford to waste training dollars and training effort. Training modules must be appropriately focused and deliver expected student/employe outcomes. These were the objectives of the training effort at the AC Rochester Flint West Plant where over 600,000 hours of employe training were completed in calendar years 1990 and 1991.

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EXHIBIT A

Each of the partners brings unique views, qualities and expertise to the partnership. Business provides information and experience to identify skill upgrades needed by current workers in the modern workplace. Education is addressing the new technologies and the business training needs by providing the methodology to train existing workforces and prepare students for future entry into the workforce. Labor, the last stakeholder, is the recipient of these training opportunities.

Education and training is one avenue to help restore economic leadership in a world market. Project BEL is a continuing process that provides a systematic approach to education and training based upon measurable student and employe outcomes. Measurement tools used to evaluate E. A. Johnson's, a high school (Mt. Morris) student, achievement in the targeted literacy skill areas have shown a 48% improvement in overall student grade point levels. Business outcomes are reflected in improved productivity, quality and attendance performance. Our focus of providing a systematic approach to education continuously addresses the issues of feasibility, accountability and productivity.

America's greatest resource is its people. Project BEL has effectively integrated a hidden resource, America's teachers, into the business environment to deliver workplace literate adults for the twentieth and twenty first centuries.

EXHIBIT B-1

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1992

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Chairman KILDEE. Thank you very much, Mr. Krueger.

Mr. Gould, do you have something to add at this time to the testimony?

Mr. GOULD. Not at this time. Thank you, Mr. Chairman.

Chairman KILDEE. Thank you. We will prepare for questions then. We appreciate your testimony. I had the opportunity to visit the BEL program in Mt. Morris, and I had hoped to bring Secretary Lamar Alexander out there when he came to Flint, but he was stranded in Detroit for a while. The Governor wanted to see him, and everyone in Flint wanted to see him, so he had to abbreviate his schedule.

I hope to bring either the Secretary of Labor or the Secretary of Education out to Mt. Morris schools. I was very impressed with what I saw out there: the staff, the students, and the dynamism that existed there. I commend you for what you are doing there. I commend the UAW, I commend General Motors, and I commend the Mt. Morris school system for what they are doing there.

Dr. Grover, in your testimony, you talked about how Wisconsin is improving the link between schools and the workforce. What obstacles, if any, have you encountered in incorporating workplace skills into schools? What problems might we have to look at and address as we enter into this area?

Mr. GROVER. In the democratization of the school system, we must make sure that everyone, when they engage in the choice at the age of 16, feels that there is noblesse in their option. That is why the apprenticeship program must be deemed a privilege and it must have high standards in order to gain entry. My sense is that this point is not one that is critical, in terms of whether or not we are going to be able to make this thing work.

The problem is, we do not need models. We do not need Federal models either. We need systemic change. There must be an absolute hookup between State policy, local school district change, and a national directive as we coordinate this so that in fact it does not take place in varying forms 16,000 times. I am not sure that I am answering your question as directly as you want, Congressman. Maybe you want to hit me again on that one.

Chairman KILDEE. No. I think you have given me another lead on this, as a matter of fact. We have a bill, H.R. 4323, which will be one of the major education bills we would hope to move this year. In that, we are trying to encourage school districts to systemically change. Do you think that in H.R. 4323, it might be possible to incorporate the parts of this bill as part of that systemic change at the local level and the State level?

Mr. GROVER. I think the State has an obligation to develop the core applied academic program. If not, we will have 420-some definitions of that. That is not to limit school districts, but it surely means that every child has a core applied academic program available, along with a theoretical academic program. We think the applied academic program should be so empowering that at the end of the senior year, if you were planning to go to technical schools and have made a decision to go to the universities, in fact you could handle the entry level course expectations of the universities. So it is not a denying condition; it is an expanding condition.

I have four points that I did not make to you, Mr. Chairman, if I could. If not, Gordon Ambach is never going to invite me out here again.

The program we feel must support systemwide policies and require State and local plans which link Federal and State resources. These plans must be an integral part of a comprehensive reform strategy as provided through the Neighborhood Schools Improvement Act. Preparation for employment cannot and must not be isolated from the other parts of the secondary education programs.

The program must provide for coordinated administration at the Federal, State, and local levels by education, commerce, and labor agencies. The program must assure collaboration among employers, employees, and educators to determine program design standards and assessment. We are working with the national printing industry.

There are nine areas that are apprenticeable in West Germany. We are working with the national printing industry, so that if you earn a printing apprenticeship in Wisconsin, it would even have national portability. Then we would argue that the program must match the resources to be committed at the magnitude of the task, serving millions of American youth.

We would argue that this cannot be demonstrated by a pilot effort but must support systemwide change, and this means substantial investment in resources for youth apprenticeship, technical preparation, and workforce learning, beginning in the secondary years and continuing through regular employment.

Chairman KILDEE. Thank you very much.

Let me ask a question of both Mr. Krueger and Mr. Gould. Integrating work skills into the K-12 curricula is a new concept in the way we educate students. We may have done it at one time, but we may have lost that. What has been the reaction of teachers in the Mt. Morris schools to incorporating work skills? How has this changed the structure of the classroom?

Mr. GOULD. Our teachers have really endorsed this change. We have taken workplace literacy skills and made that the foundation from which we teach all our content areas. So our teachers have been very enthusiastic, mainly because of the training that has been provided. They have been paid to receive this training, and they have been an integral part of designing the curriculum. They are extremely enthusiastic. We have had teachers at our school district average around 20 years of service. There is a tremendous amount of expertise in education. The curriculum that they designed and now have real ownership in has really revitalized their enthusiasm in education. With the results we are having from students, there is a very good feeling in Mt. Morris about education.

Chairman KILDEE. How is staff development provided? Did you reach outside the school system, or was it done internally?

Mr. GOULD. It was all done internally, with trainers from General Motors and some outside consultants. We trained them in such areas as team building and how to integrate that into the classroom. The teachers designed curriculum to work across both vocational and academic areas, as well as special education areas. So 100 percent of our students are involved in workplace literacy skills.

Chairman KILDEE. Did General Motors actually send people into the school system to work with the staff and faculty?

Mr. GOULD. It is a trade. It is a change. For three summers, we have taken teachers out of the school site to General Motors, to their training site at A.C. Rochester Flint West. We have shared with them the expertise of teaching and how to teach their workforce, as well as the teachers learning all new skills and learning joint process and learning what it takes to be in the workplace today. A lot of the teachers have never been into the factories or been back into business for 18 to 20 years and really did not have an understanding of the business world and how it was changing. This, I think, was the impetus to really change and see how much there was a need for this to happen.

Chairman KILDEE. Mr. Krueger, I do not know how much seniority you have at General Motors, but I know you have more than probably 1 or 2 years' seniority there. Can you tell the subcommittee what type of employee skills were needed by General Motors in the past and how that has changed now?

Mr. KRUEGER. When I first hired into General Motors in 1966, the impression was that all you needed were your hands. You just punched in, you did your job when you reported to work every day, and you were expected to be there every day. That has not changed, but one of the things that has happened is that they have realized that people are GM's greatest resource. One of the things we have done today is, we are asking our employees to bring everything they have with them to work. We need those skills and abilities.

One of the things we have gotten into is self-esteem, the work teams, the joint process and employee involvement, being involved in the problem solving and decision making that goes on every day in the workplace. That is an active role that we need, to make sure that the young people coming into the workforce today have the skills and abilities where they will have the confidence to know they can do those kinds of things in the workplace: the meetings techniques, the stand-up skills, being able to work with a group, and negotiate and compromise, those kinds of skills.

It takes a safe place to practice those so that you can build that confidence. If we can get that to happen in the schools, they will be ready for that workplace, and they will be productive members when they do join our workforce.

Chairman KILDEE. Thank you very much. I had the occasion to tour most of the plants in Flint. I started to go to GM plants probably in 1935. I think one of the first Christmas parties I attended was at Buick with my father in 1935, when I was about 5 years old. I have been amazed by the technological changes inside the plant, but I am also amazed at the attitudinal changes, where people do feel they are part of the team and have a role in making some of the decisions, even stopping the line in some instances when they feel things are not operating correctly. That takes a great deal of interpersonal skills and judgment. That is what has amazed me, more than the technological changes in the plant.

I think Buick City, with which you are familiar—and by the way, I will put a plug in here—which J. D. Powers says produces the best car made in America, the changes in that plant have been

enormous. I know the changes at A.C. Rochester West have been enormous. You have seen many of those changes there. The attitudinal changes and the intellectual changes have been as impressive, probably more impressive, than the technological changes.

We have other witnesses here. I am going to come back to Dr. Berryman and Mr. Olson, but I want to be fair to Mr. Gunderson here now.

Mr. GUNDERSON. Thank you, Mr. Chairman. Thank you all for your testimony. Congressman Goodling and I have been trying to get out of the drafting bureau a school-to-work bill of our own. I bring that up simply because it is fascinating, if I understand what is going on here, that the "Democratic" bill offered by Mr. Kildee is following up on the SCANS commission of Secretary Martin, and the Republican bill by Mr. Goodling and myself tends to follow much more what the Chief State School Officers are doing. So we are all mixed up on party lines around here this morning. I do not know where that gets us, Mr. Chairman.

Chairman KILDEE. We will go up in the mountain and come down with something.

Mr. GUNDERSON. The reason I bring that up is because if I heard correctly what most of you are saying in your testimony, we really need to marry the two bills. The Kildee bill talks about competencies, and our bill talks about industry-recognized skill standards. My question to you is, do we merge two? If we do, how do you suggest we do it, in terms of the responsibilities of the board, or what other mechanism do you suggest? I guess we can start with Dr. Grover and just work our way down with whoever wants to comment on it.

Mr. GROVER. Thank you, Congressman. I believe that we support a national board. We believe the national board for standards is needed. We think these standards should be connected with work done by the proposed National Council for Standards in Testing. We believe that the standards need to be industry by industry as well as general. If we are going to have systemic change, that Federal legislation must drive it. It must drive it through the States, and it must drive it through its relationship with industry standards so that, in fact, you do not have a smorgasbord of model relationships out there that do not meet holistic change. It seems to me then, the melding of the two views, your views and the other views, is appropriate in order to have a strong national effort in this area. I would support that.

Mr. OLSON. I would support a merger of the two bills also. The perspective that Michigan comes from is a little different from Wisconsin. I believe, if I am not mistaken, that Wisconsin does a lot of its vocational and technical education postsecondary in schools. Michigan does a good portion of its vocational and technical education in secondary schools in the 11th and 12th grades.

While I appreciate what we are saying here, in terms of getting the two together, I do not want to lose sight of the fact that employability skills starts way down in the system, not just something that is capstone in high school or community college. We have to look at employability skills as being something that we integrate into curriculum, K-12, and particularly when it gets into the junior high level, where we begin to start planning what students are

doing with employability development plans and also the introduction of technology education at those levels.

The few pilots we have been able to run in Michigan have shown just phenomenal success with changes in attitudes, not only of the students. When we involve the parents in the planning at that level, it makes a tremendous difference in how kids perceive high school and what they are learning.

There are a couple of things in my testimony relative to one of my districts, Grand Blanc schools, that has put together quite a comprehensive K–14 program. They are looking at the employability skills and technology education coming into being in the middle school, and then into applied academics, followed by vocational education and postsecondary vocational training. That, in my mind, is what we want whatever we come up with, in terms of a merger of bills, to reflect. We have to take all the pieces, all the way through.

Ms. BERRYMAN. I really envision a system of boards. Most of them would be industry and occupationally-specific in the ways that have been talked about here. I envision the National Board on Workforce Skills as really concentrating on the generic workforce skills and the foundation skills that really undergird everything, benchmarking those against the workplace so that we have some understanding.

We say that people need to be able to read. Of course, they need to be able to read, but what are the levels that are really needed in order to perform well in a restructured workplace. When I say "generic," I am really talking about cutting across the industries and the occupations.

I very much agree with Mr. Olson. To develop those sorts of skills in young people, we have to work all the way down to the elementary grades. We are now seeing that many of the ways for developing those skills may have less to do with the curriculum than they have to do with pedagogy or how you teach. Ultimately, when you begin to really change how you teach, it affects curriculum. They are very intertwined.

For example, one of the things that is important to a Motorola today is employees who show some initiative and really know how to learn. You are not going to suddenly, in the 10th grade, start working with students who have come through a passive learning regime for the first 10 years of their schooling where you have a teacher, who is the sage on the stage, pouring knowledge in a passive way into the student, without giving that student any opportunity to really grapple with knowledge and begin to develop the skills that are really key to learning how to learn and to taking initiative and developing confidence in their capacity to learn.

This is why we see the things that ultimately become very important to someone when they are in the workplace have to start being developed very early in the school years, way down in the elementary grades. I think the industry and occupationally-specific boards will tend to be seen as addressing the late years of high school or the postsecondary level, whereas this National Board on Workforce Skills, I think, has the rather unique responsibility of worrying about those generic issues and their implications for the elementary as well as the secondary grades.

Mr. GROVER. The only concern I have is that if we end up with 50 different skill standards for printers in this country, I am not sure we have done justice to our students or to a school-to-work program on a national basis.

Ms. BERRYMAN. You need both.

Mr. GUNDERSON. Mr. Krueger, do you have any comments?

Mr. KRUEGER. Yes. I wanted to comment that one of the things we found, when business and labor were trying to go into the educational systems in the seventh and eighth grade, that this was too late in some cases for us to have those students be prepared for the apprenticeable trades and opportunities that would be available to them upon graduation. So one of the things that we looked at was ways of getting even back further so that those students will be prepared and will be ready in mathematics and the sciences, showing them what kinds of opportunities are available to them if they choose that career path.

Mr. GUNDERSON. I have one other question. If in the interest of time you want to submit answers to us, that is fine as well. How do we make sure this happens? It is wonderful to pass legislation on a bipartisan basis that sets up a national board and deals with both competencies and skill standards. It gets, Dr. Grover, to that systemic change you were talking about. Will a set of national competencies and national industry standards, by itself, be sufficient to empower to the States to do what we would like them to do? Do we need to direct much of our money, as Mr. Kildee does, in grants to the LEA's that are willing to participate in this program? What do we do to make sure that in a year or 5 years from now, our initiative this month is a productive one?

Mr. GOULD. Mr. Gunderson, what we have found in our project is that in order to do that, this national board that really needs to set those standards would have to realize that this is a program of training. We have talked about retraining workforces throughout industry. One thing that I continuously hear—and as president of the Mt. Morris Education Association as well—is that so often we leave teachers out on a national basis. We need to retrain our teachers. We have to give them opportunities so that they can retrain, K through 12.

I think the national board needs to set up a system which provides a system to change, set the national goals. Both business and industry and education need to have a national focus. We really need to say, "We want someone on the moon in 10 years." What we really want to say is, "We want to be an economic leader again in 5 to 10 years." That is going to take a retraining of staff, teachers, the way we teach education, and the way we train our teachers.

We have found that the teachers really are enthusiastic about change. They know that they want to do a better job. They want to prepare students for today's technology. We need a national board to give us direction and provide the funding to retrain that workforce as well and provide programs so that they can be retrained.

Mr. GROVER. I think, Congressman, that every State ought to have a State plan. That ought to be required in order to even participate in any Federal funding. I believe that if you just funnel this money to LEAs, you will not engage in the system change that

is absolutely critical at this time. I believe that national standards ought to be there.

For instance, in the printing industry, I believe as we develop these apprenticeship certificates, we will not have an apprenticeship certificate in a skill area that does not meet the national printing standards. It might be that we have our own nuances, but they will meet the core expectation because they will be industry-wide and will come from a base of knowledge in terms of what is needed.

I believe that the State, in collaboration—we do it in Wisconsin, in the Department of Industry, Labor, and Human Relations—ought to be one-stop shopping as we develop youth apprenticeship certificates that have statewide portability and imprimatur.

Also, we have to have an assessment system in place. I understand that you have been dealing with that, Mr. Chairperson. We think that at 4, 8, and 10, we should make sure that young people clearly have expectations, in terms of learning objectives and subject matter at grade level, assessed annually, and then engage in remediation if they are not in place. We also believe in career exploration.

From the moment they come to school, they must be taught that they are going to be tomorrow's workers, and we must do that in their formative and development years—in the fifth, sixth, seventh grade—start exploring the nature of work beyond career fairs and career days, almost adopting the European style there as well. A much more serious look at the fact that at the age of 16, you will be making some fairly formative choices in your life, not limiting you but expanding your horizons and preparing you for the opportunities that present themselves through a continuous educational experience.

We think the Federal effort ought to be linked to a State plan and that it have a high degree of specificity. The national standards ought to be there for any apprenticeship certificates that we are developing so that, in fact, they have national acceptance as well.

Mr. GUNDERSON. Mr. Olson?

Mr. OLSON. Just to agree with my colleague from Mt. Morris on the importance of teacher retraining, a little story, if you may. A couple of years ago, when we first got into the applied academics business and were playing with some models, we took a physics teacher from a prestigious high school in our county. I will not get into specifics. We enticed him into going for some training in the summer with the CORD project, the Center for Occupational Research and Development in Waco, Texas, to train him how to teach physics through an applied application method, rather than a typical theory method. He got really excited when he came back, and he could not wait to get to his physics students, which typically is about the top 5 percent at most schools.

We had a little surprise for him when he got home. We said, "You can use it there. However, you are going to have one section where you are going to have students from vocational and technical education," and he about died. He got the kids from the auto shop and the machine shop and places like that. I cannot believe

what he did with those students, using a different teaching technique.

That is the key, as far as I am concerned: getting our teachers to recognize that there are different ways of teaching. Students have different learning styles, and their teaching styles have to match the students' learning styles. If anything taught me, that was the best money I ever spent in Genesee Intermediate, in terms of getting my focus on what has to happen to make change. Thank you.

Chairman KILDEE. Thank you very much. I appreciate Mr. Gunderson's questions. I think they elicited some very good responses. I like your idea, Dr. Grover, of the State plan. I think that makes eminently good sense. I also believe, speaking of a national entity that would give some direction here, that education is a local function, a State responsibility, but a very important Federal concern. It is a Federal concern for two reasons.

First of all, we are competing in a global economy now, but it is also a Federal concern because we are a very mobile society. The person educated in Wisconsin may find himself working in Georgia or vice versa. So a certain national concern, with certain guidelines, certain objectives, could be helpful to the local school district where the function does lie and with the State where the responsibility lies.

So I would like to meld those three together. I appreciate Mr. Gunderson's question, and I appreciate very much the fine responses.

Mr. Hayes?

Mr. HAYES. Thank you, Mr. Chairman. I got here late, as you know. I was trying to lay the base for helping to make history in the State of Illinois to elect the young woman who won the primary to become a U.S. Senator, Carol Mosely Braun. She will, if successful, be the first black woman ever to reach the United States Senate. So that is the reason for my being late.

Chairman KILDEE. You get an excused tardy slip there.

Mr. HAYES. I do not know if I have a question or not. The thing that is really disturbing to me, and I think probably rests on your mind, too, particularly coming from Flint and that area, there are so many positions or jobs that are disappearing, particularly in the industrial sector. While I am for preparedness through education, I am not sure that is a complete answer to our problem. I think we have to look toward the creation of positions and jobs for people who are unemployed. It will not come just through preparedness.

This is not only true of the automobile industry. Technology has made some changes; there is no question about it. I have gone, as you know, into other sectors of the United States where you can hardly find a pair of shoes that is made here anymore. The garment industry, a lot of it is gone.

I think that in addition to improving our whole educational system and reform it to prepare our young, we have to have a place to put them once they are prepared. This is the thing that bothers me: placement and jobs. That is the reason I stress so hard for some kind of a public works kind of program that is going to take up the slack for some of the unemployed who come out of school. I know in my district, you cannot find a job anywhere, and this bothers me a lot.

It is just a comment. I do not have a question. If the witnesses want to react to it, they can. I would be glad to hear the reaction of some of the panelists. I am not criticizing the education, the desire and the efforts to reform and prepare our educational system to fit into today's world, but I say education is not the only answer.

Chairman KILDEE. I think you raised a very important point, Mr. Hayes, as you usually do. I think those three at the table who are from Genesee County agonized over that, too. General Motors just announced a few weeks ago that in 1995, the V8 engine plant in Flint will close, which will lay off 4,036 workers. We worry about training people, giving them these skills, and not having jobs out there for them. I understand your point exactly. I lay awake at night thinking about this.

At the same time, General Motors cannot take into its plant anymore the people it used to take when I graduated from high school. In my day, you did not have to graduate from high school. You could quit high school on Wednesday and go to work for Buick on Thursday. Those days are gone forever.

We try to bring new jobs into the community, and hopefully, if General Motors or any other corporation knows that in a given community there is a pool of skilled workers, not only present but skilled workers coming into the workforce in the future, they might take that into consideration to expand or keep jobs in that given area. That is my solace when I think about training when we are losing jobs, that any corporation may feel this is a good place to locate or expand if there is a trained pool of workers.

Mr. Krueger, you mentioned that when you first went to work, all you needed was your hands. We used to say, "How many hands do you have in this plant?" We used to talk about manual labor. We know now it is manual/cerebral/attitudinal labor that is needed. I think your point was very good.

Mr. Hayes, you raised a point that we are all wrestling with, and I am glad you brought that up.

Mr. Reed?

Mr. REED. Thank you, Mr. Chairman. I have a few generalized notions and, just like the old College Bowl, will have a toss-up question so that anybody who wants to respond can do that. It seems to me that over the course of our history, we have bifurcated education into two major tracks: college-bound and work-bound or directly work-bound. There are several factors that provided that bifurcation. The first major category is economic factors and social factors which the schools have little direct control over.

The second factor would be individual capability or interest. Again, I am generalizing a great deal, but it seems to me that those people who got into the college-bound track tended to be very good at abstract thinking and conceptualization, while those that got into the other track, their strength might be their mechanical skills or their manual dexterity.

What seemed to me profound is that this aspect of manual dexterity, what we identified as craftsmanship years ago, is no longer very relevant or pertinent. Now it has become much more intellectualized. To operate a computer, you have to be literate, you have to have a grasp of abstract thinking, you have to have skills that

do not favor those people who are mechanically or manually oriented.

I wonder again—and if you could react to this—how do you take a group of people whose major skills are not abstract thinking; if they had those skills, they would be in the other, academic, track. How do you now get them to start doing things so that they are highly valued employees with the necessary skills? That is my first generalized question.

Mr. OLSON. I will take a shot at it, if I could. A couple of things come to mind. First of all, changing the way we teach children is one of the methods, using an applied approach to something. Most students who go into a college track, as most of us did, we were the students in high school who were the good memorizers. We could play the game, quite bluntly. A lot of our students who are in other tracks, whatever you want to call them, maybe are not good memorizers. It does not mean they cannot learn. They learn by other methods, and in many cases, they are applied. One of the things to do is to change the approach of teaching.

Mr. REED. I agree, but just let me follow up. I think it is an interesting point. I think you are right. I think people who go to college have good memories, good verbal skills, and probably, in my case, could not fix a flat tire without extended and painful ministrations, whereas other people could do that quite deftly. Is there a real question that the skills that are needed out there in the workforce are precisely those skills of memorization or abstract thinking? I am asking this sincerely as a question, not a conclusion. Is there a category of people whose skills are so strictly mechanical and manual that we have a real problem in terms of getting them into the modern workforce?

Mr. OLSON. I feel that the skills needed in the workforce today do not fall necessarily into one category or the other; they are both. Even that college-bound student had better understand technology and better be able to apply things today.

I cite my own son as an example, if we are not being recorded and he cannot see me. He was a 3rd-year engineering student at Michigan State University a couple of years back. He was home for the summer. He is a bright kid, and I am very proud of him. We were pouring a driveway, and I asked him to calculate the number of cubic yards of concrete I was going to need to put this driveway in, and he panicked. He had never done it before. If I had listened to him, we would have ordered enough concrete to pave the back yard.

My point is that somehow, we have also thought in this process that the college-bound student was okay. My contention is, it is not okay. We have a lot of work to do with that level of student as well, bringing them up to be technology oriented and application oriented. Our workforce wants people who not only can think but can apply. That is what they want today. All you have to do is walk down that Buick assembly line and look today at what it looks like. If you have not seen it, it is an amazing thing. The people who are working on that line must be able to think and apply, not just think or not just apply. They have to do both.

Mr. REED. Anyone else?

Ms. BERRYMAN. Yes. Mr. Olson is absolutely right. He has a century of research and thinking to back him up in his points. I think that the dualism that you talk about, between academic and vocation, has been disastrous in this country. You find it, of course, in most educational systems. It goes back to the Greeks. It is tangled up with really marking the fact that you are members of the leisure class, as opposed to the working class. We know these things.

The irony is—and Mr. Olson is absolutely right—that those in the academic track may have a well developed verbal repertoire. That may well have been modified. Their behavioral repertoire, in other words the use of their knowledge within situations outside of the school, is usually very undeveloped. You have the reverse situation for kids in the vocational track. We have a disaster, in some ways, on both side of the fence.

You were talking about applied physics and you talked about different styles of learning. I think I might like to modify that a little bit. What you found with your physics teacher, who began to use very different methods of teaching, those happen to be consistent with how everybody learns. I am not saying that we do not take information better through our ears or our eyes; there are variations within groups of that sort. It is really integrating doing with thinking, contextualizing—which does not mean vocationalizing.

This gets to the issue of retraining. If we are serious about really altering how it is that our teachers teach—and this is the key; it really is pedagogic here—we are talking about a very major retraining effort. They do not know how to do this, by and large. I think we now understand an awful lot of what it would take to be able to create learning situations that are very effective for both vocational and academic kids as we have always thought about these two groups. I think at certain points, you are going to find that it is going to be hard to tell which kind of a classroom you are in.

Mr. REED. Any other comments?

Mr. GOULD. What we found, in taking workplace skills as generic, and using that as a basis, and putting that before the content area, our teachers—whether it is an advanced English class, as well as a remedial English class—workplace literacy skills are taught the same way, and the outcomes are measured the same. We have found that those students, at whatever level, basically have the same accomplishment levels as far as the workplace literacy curriculum that we are trying to do at Mt. Morris.

We also decided that we needed a program for the kid who wants to be that engineer and tried to identify and say to him someday he has to go to work. He can be in school, and he can do very well in higher education, and come out with a 4.0 and be hired by all kinds of corporations, but eventually he has to go to work. He is not going to work totally alone, so he has to have certain workplace literacy skills. That is the premise on which we started our program and have been very successful.

I would just like to say that in our program, we had kids who came to us at the freshmen level who had extreme behavior problems. Their grade point, if it even reached a 1.0, it was amazing. Out of 26 of those kids, 13 today, within the second year, are at 3.5; 10 of them are working in a project which we call Project Gradua-

tion, are working at A.C. West, some with engineers. So it does have a dramatic effect, we think, the applied part of it. Our teachers realize that and have really turned that around.

Mr. REED. Let me follow up on one of the comments I heard. One of the problems I think we have is not only do we have two tracks, but one track is prestigious and well rewarded, both in terms of emotional reinforcement and monetary reinforcement, and the other track is not so well rewarded. It seems to me, and some of my observations are very casual ones, that once you go into vocational education, it is like you have been condemned to a life of second class citizenship in the United States, which is terribly unfortunate for the individual and for society, since we need more and more people who can work in modern, complex, self-initiating factories.

May I conclude that among your recommendations would be essentially that we tear down these walls and try to have a situation where we require college-bound people to take technical training and the vocational students to develop those types of verbal skills? Is that a fair summary of your recommendations?

Mr. OLSON. Oh, yes.

Mr. REED. I would like to emphasize, just finally, two other thoughts that I am in agreement with. One of the dangers in coming to these hearings is that you learn a little bit that changes your preconceptions. It is a danger that many resist but some of us fall into the trap. I do in fact think that early intervention is the key.

One of the problems we have in education is that by the time we start approaching these difficult decisions of "Are you going to go to college prep?" you are already doomed. You are 14, 15, or 16 years old, and there is no way you can go back and say, "Gee, if I had some additional training—" I would concur in your suggestion that we start very early teaching these skills, teaching technology, and bringing together rather than separating out our students.

The other thing that I am in agreement with—and this is a changing perspective in my view—is that if we are going to invest resources at the Federal level, we should invest it most promptly and fruitfully in enhancing the ability of teachers to teach, not necessarily trying to go out and do exhaustive measures of how well students are learning. I think that might be the lever that the Federal Government can use to significantly improve the educational system in the United States.

I want to thank you all for your very illuminating testimony. I will just close with this. Part of what we are about is not only changing the face of American education, it is also changing the face of American business, how it organizes itself to do business. We here are on a committee that has direct leverage on education, but I think we also have to think about how we get business to be an active and vigorous partner and to take steps that are complementary and supportive of what we are attempting to do. Thank you, Mr. Chairman.

Chairman KILDEE. Thank you, Mr. Reed. I am going to say something now that might be even more confusing and not relevant. I think various skills are needed. I am thinking of the first atomic bomb that was built. That idea was conceived by Einstein. I am not sure Einstein really could have loaded a camera, but I think he

could have been trained to load a camera. I do think people can be trained in those things. Einstein was the theoretical physicist.

Then we had some practical physicists who knew how to gather the uranium together. By the way, those practical physicists always looked down on the chemists who worked with them. They thought the chemists were a degree below them always. There was always a rivalry. The chemists had to find some way to implode into the uranium so the atoms would be compressed to get the reaction they wanted. With the chemists, there were some technicians who actually finally decided how they could put this around the uranium mass.

Of all those people, some were more skilled in the manual and some were more skilled in the theoretical, but probably most of them could have been cross-skilled a bit. I think a lot of people who have the theoretical skills can be taught the practical skills, and a lot of people with practical skills can be taught at least a modicum of some of the theoretical skills. I am just adding that as a thought. I have always been fascinated by the team work it took to construct the first nuclear explosive.

Mr. REED. Mr. Chairman, may I just add that it ultimately took a West Point graduate, General Groves, to make it all happen.

Chairman KILDEE. Very good. Get a plug in for your alma mater. So what I have said may be confusing, but I think there can be a lot of cross-training. The theoretical person can be taught some practical things and vice versa. We are not always all that compartmentalized. I do know that in a line at A.C. Rochester West and at Buick City, you have to have more than just the manual skills now. You have to have those cerebral skills and attitudinal skills that are very important to American industry.

Let me ask just a couple more questions, while we have you here. First of all, how did these students at Mt. Morris high school react to this new program?

Mr. GOULD. The students have really become more responsible for their learning and now are starting to realize how important it is to them. They have individualized their learning, and it has become much more personal. There is a whole new attitude for our students, providing them correct information and teaching them decision making. They are starting to have a lot more responsibility, which is very pleasing to our teachers.

Chairman KILDEE. Let me ask both Mr. Olson and Mr. Gould this question: How do you factually incorporate these skills into the curriculum? Both of you can tackle that.

Mr. GOULD. First, I will tell you a little story about what happened, to answer your question. For the first time, we had teachers from the vocational area and the academic area in the summertime to sit down and talk about how to integrate those work skills in their content areas. It was amazing to see. We have worked with these people for 20 years. We actually sat down and talked about education, and it did come altogether.

They realized that a shop teacher was doing academic things down there, besides just teaching kids to work with wood. A light went on for the academic teachers as well as the vocational teachers. They saw they were doing a lot of things and could share a lot of things.

Now our workshop teacher does spend some time in the math class. So there is a lot more team building and a lot more sharing among the academic and vocational. So we have integrated those two things.

I do not know if that answers your question or not, but I will just tell you that is an observation we had, and it worked for us.

Chairman KILDEE. John?

Mr. OLSON. Really, it is the same kind of thing. I will use another anecdote, if I could, to demonstrate that. The technology education class, which is open to ninth through 12th graders in Grand Blanc High School, for example, is taken as an elective. Definitively, the teacher, who has been a vocational teacher, had worked in a particular lesson on some principles of physics to demonstrate, particularly that of lift. In this particular case, it was that of an airplane. They use a simulation on a computer. The students were asked to set up in teams and fly this airplane on this computer and fly it as far as they could—a competition, if you may.

You have in the same class a student who is a senior, a physics student, and also a vocational student out of an auto shop. This particular physics student, he and his father own an airplane, and he thought he could really make this baby go. He was dismayed when this student who is from the vocational lab beat him on the computer. He was so dismayed that, that evening, he got his father to come in, and they worked on the computer, trying to see if they could make their plane go a little further.

The next step then was to take a piece of balsa wood and construct a wing and measure, in a wind tunnel, what their wing lift would be. They did this also in teams. Much to the dismay of the senior physics student, he was getting crushed again.

All of a sudden, you found students working together to solve a problem. What was making this happen? What was making this work? That is application. What I see is that it can be applied, regardless of what the level of the student is. What they want to do is get the student to understand the principle. What is key to it, however, is that teacher going into that lesson plan knowing what his outcome is going to be and what he wants it to be, so they can be sure that the principle that they want to get taught is in fact taught. That is where it is key that these teachers who have worked in individual cells a mathematics department, in an English department, in a vocational department—now are working in teams. That is the key.

Chairman KILDEE. Thank you very much. I probably have attended several thousand hearings since I have been in Congress and presided over a few hundred, but this has been one of the finest panels that I have ever listened to. You would be good, the five of you, traveling around the country, explaining this very well. We have had people who are right in the plant, we have people right in the schools, we have people in vocational education, and people with great backgrounds in education and helping our teachers develop, and a superintendent of public instruction.

It is really a great panel, and it has been very helpful. I think the document that we will put together here today, helping us decide how the Federal Government should relate to this situation,

will be very helpful to the entire Congress. I want to express my appreciation to the entire panel for your contribution.

If anyone has any concluding remarks, we will take those now.

Mr. GROVER. Congressman, we want to thank you for initiating the legislation, and we want to thank you for holding the hearing. We look forward to working with you as the Federal Government addresses its role in the systemic change that must take place in education. We thank you for the opportunity of being with you today.

Mr. OLSON. I echo those same remarks. I am very pleased that the Chairman is also my Congressman. I found out last night, however, that in redistricting I may have to move if I am going to stay in his district. I am very pleased with what is taking place here, and I am very happy to be here. Thank you very much.

Chairman KILDEE. Thank you very much.

Ms. BERRYMAN. Thank you very much, Mr. Chairman.

Mr. KRUEGER. Mr. Chairman, I would like to extend a special thank you from business and labor for the invitation to speak here today.

Mr. GOULD. We also would like to thank you. It is a major step for a schoolteacher to sit in such a prestigious room and be really awed. Thank you.

Chairman KILDEE. As a former schoolteacher, I deeply appreciate that. I taught for 10 years. I tell people I have taken this 28-year sabbatical in politics, and I love it. Once you are a teacher, there is no cure for it; you can only treat it. It is with you all your life, and it is a great thing to have. I still love to go back into the classroom. When you walk in, you can pick up the piece of chalk as if you never left the classroom. I am still a teacher, and I am proud of that. I am glad to have all of you here.

Dr. Berryman, your role in training, educating, advocating, stimulating all our future teachers is a very important role that you have.

Ms. BERRYMAN. Thank you very much, Mr. Chairman.

Chairman KILDEE. We will leave the record open for two additional weeks. We may want to submit some questions in writing to you. With that, we will stand adjourned.

[Whereupon, at 11:20 a.m., the subcommittee was adjourned, subject to the call of the Chair.]

[Additional material supplied for the record follows:]

STATEMENT OF HON. STEVE GUNDERSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WISCONSIN

Mr. Chairman, first I would like to take this opportunity to thank you for holding today's hearing, which I hope will be just the first in a number of hearings to look into the important issue of linking our Nation's schools to the workplace. Second, I want to welcome this morning's witnesses, particularly Dr. Bert Grover, Superintendent of Public Instruction in the State of Wisconsin, and past President of the Council of Chief State School Officers. It is fair to say that Dr. Grover is one of the leaders in the Nation on the issue of linking schools to work. I look forward to his testimony, as well as that of all of today's witnesses.

Mr. Chairman, the United States is in a state of great change. One of the driving forces of this change is the evolving American workforce, which will require significant investment in human capital in the future, as well as reform in our national human resource investment policies and practices. U.S. competitiveness is declining, and we will lose our economic leadership within the decade if we do not make these necessary changes and investments right away.

While the United States still maintains the highest standard of living in the world, the gap is narrowing, with wage rates in the U.S. lower than in Germany, Sweden, and Denmark, and falling. The United States still leads the world in productivity, but its growth has ranked last for over a decade compared to other industrialized nations. But the U.S. still has the capability to remain top in the world. We continue to have the potential to create jobs at a rate higher than the number of people entering the labor market, if we operate at peak efficiency. According to the *Economic Report of the President* just published in February, despite temporary setbacks of several recessions, employment has increased by 38 million, from 71 million in 1971 to 109 million in 1991. This 53 percent growth far surpassed that of most other major industrialized countries, with Japan growing only half as fast; and France, Germany, and the United Kingdom less than one-fifth the U.S. rate. The President's report also notes however, that of the jobs created, there was a significant shift toward high-skilled jobs requiring education beyond high school.

Not only is it critical that our workforce be well-educated and trained to fill these high-paying jobs of the future, it is critical to recognize the link between the quality of the U.S. education and training system and our ability to compete with other countries economically. Other industrialized nations recognized these linkages long ago, emphasizing: Excellence in primary and secondary education; upgrading standards and expectations for all students; and youth apprenticeships as ways to prepare students for work.

The basic building block for career preparation is a good education, but the U.S. education system has not kept up. One study conducted for the U.S. Departments of Education and Labor estimated that the total number of new jobs created between 1985 and 2000 requiring solid reading and writing skills will equal 15,571,000. However, it was estimated that the percentage of workers entering the job market with the requisite skills for those jobs will equal only 22 percent.

One of the biggest problems with U.S. schools today is the fact that they do not adequately prepare students for work, particularly non-college bound students. At a time when only 50 percent of U.S. youth go on to college after high school, with only 20 percent of all youth completing 4-year degrees, our U.S. educational system continues to be disproportionately geared toward meeting the needs of the college bound. Very little attention is paid to bridging the gap between school and work.

This attitude compares to competitor nations, where schools and employers typically work together to facilitate youth's entry into the workforce. In Japan for example, high school seniors get jobs almost exclusively through school-employer linkages, with employers basing hiring decisions on schools' recommendations. In Germany, roughly two-thirds of all youth participate in apprenticeships. In the U.S., the National Apprenticeship System is not widely used, nor is it generally a program that lends itself to youth. However, "apprenticeship-like" programs such as cooperative education programs, offering shorter-term youth "apprenticeships" in combination with academic studies, have been found to be very effective in providing U.S. youth with a formal bridge from school to work. Yet, only 430,000 high school students nationwide were enrolled in such cooperative education programs during the 1989-1990 school year—a number representing less than 4 percent of high school students.

Part of the blame for lack of student preparedness for work must also rest with employers. In addition to placing high value on worker education and training, other countries' businesses have adopted new high-performance work organizations—abandoning outdated "U.S." management structures developed in the early

part of the century—on which many U.S. companies are still based. Competitors utilizing high performance work organizations, as well as innovative U.S. companies, depend on highly skilled workers who participate in decision-making in systems driven by customer needs. This recognition of the direct linkage between investing in human capital and competitiveness has helped fuel the success of our leading competitors, and is the subject of a great deal of activity on the part of the administration, Congress, and leading business organizations in the country. It is becoming widely recognized that U.S. business must take part in this sort of reorganization, and subsequently, work with schools and training systems to develop needed curriculum and set necessary standards—and demand those standards—in order to get the type of workers that are required by this sort of reorganized workplace.

Since the 1970's, the Department of Labor has conducted a number of youth apprenticeship demonstrations that have successfully proven the feasibility of starting apprenticeship during high school. In September 1990, the Department of Labor awarded $3.2 million in seed grants to six organizations to explore ways of redesigning school curricula so that students learn job-related subjects in a practical context and noncollege students are better prepared to enter the workforce. This money has been leveraged into a $10.5 million program. While these programs are meeting with success, and are hoped to lead to change the way U.S. students learn basic workplace skills, the number of youth participating in apprenticeship programs in 1990 totaled only 3,500 students.

As a part of the President's Job Training 2000 initiative, both the Labor Department and the Department of Education plan to continue efforts in the area of school-to-work transition through the continuation of demonstration programs as well as identification of barriers in current law to the establishment of these programs. Both Departments are also engaged in activities to achieve the voluntary identification of industry-recognized skill standards, as well as identification of basic competencies required by the workplace as is being studied by the Secretary of Labor's Commission on Achieving Necessary Skills (SCANS).

Both the Departments of Labor and Education are preparing to send out grants to industry, organized labor, and trade associations for the development of voluntary industry-specific skill standards. These grants will eventually lead to the development of methods of assessment, certification, curriculum development, and utilization of such standards for use by key stakeholders, including employers, organized labor, workers, educators, and the training community.

Because of their work in these areas, it is my hope that both the Departments of Education and Labor will have the opportunity to testify before the subcommittee in the near future on their efforts in the area of school-to-work transition. I know that they would provide the subcommittee with valuable insight and information in this area.

In addition to the work of the administration, there are a number of organizations, States, and school districts that have been doing some very innovative work in this area as well. As will be addressed by Dr. Grover, the Council of Chief State School Officers has been involved in the issuance of grants to 10 State education agencies for the design and development of youth apprenticeship programs in each of the States.

The State of Wisconsin, through the leadership of Dr. Grover, as well as that of Governor Tommy Thompson, has enacted legislation establishing comprehensive school-to-employment policies. I will not go into detail here on the actions taken in Wisconsin, leaving that to Dr. Grover, however, Wisconsin is undertaking reforms that include: A 10th grade assessment of core competencies; an expansion of tech-prep programs into all school districts; establishment of a statewide youth apprenticeship program; and a postsecondary enrollment options program for high school students. I just want to commend Dr. Grover, Governor Thompson, and others for their innovative efforts in education and employment. I know that the Nation will learn and benefit from their experience.

There is so much to learn and to do in the area of linking school to work. Currently, there are a number of legislative proposals to establish school-to-work transition programs throughout the U.S. Most of these initiatives provide grant moneys to State and local entities for the establishment of school-to-work programs, however, they vary as to whom this money is directed and for what. Several of the bills also contain provisions to encourage the identification of skills needed in the workplace, and the mechanism by which to certify such skills. One such bill is H.R. 4078, the "Workforce Readiness Act of 1992," introduced by Representative Kildee, which will be addressed in detail at today's hearing.

Mr. Goodling and I also plan to introduce legislation in the near future, that will provide assistance to States and local levels for the establishment of school-to-work

transition programs. Our legislation will build on the efforts currently undertaken by the Departments of Labor and Education on the identification, certification, and implementation of voluntary, industry-related skill standards. It will provide grants to States and local levels to encourage establishment of school-to-work programs through policy reform and building of an infrastructure for systemwide change. Our bill will provide grants to States and local consortia for the actual establishment of school-to-work programs, including youth apprenticeship programs; and finally it will identify incentives to employers to participate in such programs, as well as identify barriers to the development of such programs.

Again. I look forward to hearing from today's witnesses. I hope that we will have the opportunity to hold additional hearings to study this vitally important issue to our Nation's schools, its students, and to the future workforce.

STATEMENT OF HON. LAMAR ALEXANDER, SECRETARY OF EDUCATION,

WASHINGTON, DC

Mr. Chairman and members of the subcommittee, I am pleased to have this opportunity to submit a statement for the record on H.R. 4078, the "Workforce Readiness Act of 1992."

Briefly, H.R. 4078 would establish a National Board on Workforce Skills for the 21st century to oversee the development of voluntary national standards that will identify the generic workplace readiness skills all students should have upon completion of high school in order to be effective participants in the workforce. Additionally, the bill would authorize the Secretary of Education to make grants to local educational agencies for programs that integrate workplace skills into the regular school curriculum in order to facilitate the transition from school to work.

First, let me speak to Title I of H.R. 4078, which creates a National Board to establish voluntary national generic workplace readiness skill standards. The generic workplace readiness skill standards proposed in H.R. 4078 appear to isolate these skills from job-related and industry-specific skill standards and from academic standards. This would create a separate category of skill standards. Therefore, as currently drafted, I oppose the creation of a National Board on Workforce Skills. I believe a more effective approach would be to integrate workplace readiness skills, such as those identified by SCANS, into industry-specific skill standards and into academic standards. It is only through the integration of such standards that workplace readiness skill standards can be given meaning. The establishment of the National Education Standards and Assessment Council (NESAC) would be the appropriate vehicle for facilitating the development of standards that tie in academic and vocational general knowledge. Furthermore, the development of work-based standards is already being facilitated by the National Advisory Commission on Work-based Learning.

The Departments of Education and Labor, along with the National Commission, are currently engaged in a cooperative effort to develop skill standards that integrate job-related and industry-specific skill standards with workplace readiness skills. Under Section 416 of the Carl D. Perkins Vocational and Applied Technology Education Act, we will be making grants to consortia of business, labor, and educators to begin the development of national industry-specific occupational competency standards that incorporate generic work-readiness skills for certain industries and trades. These grants will total approximately $3.5 million a year. The key to this approach is that the standards will be developed by those who will use them. If employers, labor organizations, and educators are going to adopt and use skill standards, then they must have the central role in developing these standards. We view the Federal role in this process as a catalyst and convener rather than as a developer of workplace standards. In a parallel and coordinated effort, the Department of Labor will fund a number of pilot projects with industry groups to develop competency-based workplace standards in broadly defined occupational areas. Annual funding for this program will be approximately $2.3 million a year.

I should also mention that recently the two Departments jointly conducted five public meetings to provide interested parties with an opportunity to present their views on issues related to the development of voluntary, industry-based skill standards and certifications. Through these hearings we have collected substantial public comment regarding, among other issues, the principles that should guide the development of skill standards and on the appropriate role the private sector and government should play in developing and updating these standards. The Departments are currently analyzing this information which will provide useful guidance for the ongoing efforts to facilitate skills standards development through partnerships of industry, labor, and education consortia. I believe that the creation of a new National Board to work in the area of workforce standards will duplicate ongoing efforts and confuse the process by further diffusing national leadership for standards development.

Title II of H.R.4078 establishes a program of discretionary grants to local educational agencies to develop school-to-work transition programs, but it does not focus clearly on any particular strategy for improving the connection between school and work. This program would support a variety of activities to familiarize students and teachers with the workplace and business technology, develop curriculum, expand opportunities to enter career preparation programs, provide job placement assistance, and implement professional development strategies. While we support these kinds of activities, they already take place in many high schools across the country.

and can already be supported by Federal vocational education assistance and other authorities in the Departments of Education and Labor.

I would prefer a more innovative, targeted program that creates employer-school partnerships that integrate academic instruction, structured job training, and paid worksite learning. Such a program could expand the range of skills training and career options available for high school youth by enabling them to enter a skilled occupation, a certified apprenticeship program, a technical postsecondary program, or a technologically oriented program at a college or university upon graduation. The "National Youth Apprenticeship Act," introduced in Congress last month, uses this approach to build on the existing Education and Labor programs available for school-to-work activities, and merits your consideration.

I am also opposed to making grants directly to local educational agencies. This approach would be burdensome for the Department to administer. The State education agency should be involved in the design and administration of the program to ensure a statewide coordinated approach to school-to-work transition programs that reflect the varying needs of communities in the State.

As a final note, I hope that the subcommittee will consider H.R. 4078 in conjunction with legislative proposals of the administration that will help the current and future workforce, especially youth and the economically disadvantaged, improve their job skills and enhance their employment opportunities. The "Job Training 2000 Act," transmitted to Congress in April, would transform the current maze of Federal vocational education and job training programs into a streamlined vocational training system that is responsive to the needs of individuals, business, and the national economy. It would create a network of local skill centers to provide one-stop shopping for individuals to obtain vocational training and job referrals; establish a certification system for training programs to improve quality and ensure accountability for outcomes; and provide a voucher system for Federal vocational training that would offer participants the opportunity to choose their training providers.

The "National Youth Apprenticeship Act" would establish a national framework for implementing comprehensive youth apprenticeship programs and promote the successful transition from school to work.

Mr. Chairman, this concludes my statement. Thank you for the opportunity to comment on H.R. 4078.

BEST COPY AVAILABLE

CHAMBER OF COMMERCE
OF THE
UNITED STATES OF AMERICA

WILLIAM T. ARCHEY
SENIOR VICE PRESIDENT, POLICY

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March 27, 1992

The Honorable Dale E. Kildee
Chairman
Subcommittee on Elementary, Secondary
and Vocational Education
Committee on Education and Labor
U.S. House of Representatives
2239 Rayburn House Office Building
Washington, D.C. 20515

Dear Representative Kildee:

The U.S. Chamber of Commerce commends your subcommittee for recognizing the importance of the "school to work" linkage during your March 25, 1992, hearings. Please accept the attached document as the Chamber's statement for the record.

The Chamber presented this testimony to the Senate Committee on Labor and Human Resource's Subcommittee on Children, Families, Drugs and Alcoholism on March 10, 1992. It relates directly to "school to work" programs by exploring in detail what must be done to prepare the work force of the 21st century and encouraging public/private partnerships to foster a competitive work force.

The Chamber has embarked upon a strategic and comprehensive "Human Capital Investment Initiative" which will coordinate Chamber policy priorities so that a number of human resource, taxation, economic, and international issues with specific application to the American work force fall under one umbrella. We have formed an interdisciplinary task force which intends to work with appropriate federal agencies and Congress to determine how public/private policies and programs might be coordinated to better serve human capital needs.

Successful "school to work" programs are relevant to this Human Capital Investment Initiative, because they help foster a high caliber work force and promote economic vitality. These programs are especially relevant in today's society, as the importance and necessity of workers without a college education continues to grow.

I hope you find the Chamber's testimony of interest. We look forward to working with your subcommittee and other members of Congress.

Sincerely,

William T. Archey

Statement of the U.S. Chamber of Commerce

ON: THE COMMON GOOD: FORGING PUBLIC/PRIVATE PARTNERSHIPS

TO: SUBCOMMITTEE ON CHILDREN, FAMILIES, DRUGS AND ALCOHOLISM OF THE SENATE COMMITTEE ON LABOR AND HUMAN RESOURCES

BY: WILLIAM T. ARCHEY

DATE: MARCH 10, 1992

The U.S. Chamber of Commerce is the world's largest federation of business companies and associations and is the principal spokesman for the American business community. It represents nearly 185,000 businesses and organizations, including 2900 local and state chambers of commerce, 1200 trade and professional associations, 64 American Chambers of Commerce Abroad, and 11 bilateral international business councils.

More than 93 percent of the Chamber's members are small business firms with fewer than 100 employees, 60 percent with fewer than 10 employees. Yet, virtually all of the nation's largest companies are also active members. We are particularly cognizant of the problems of smaller businesses, as well as issues facing the business community at large.

Besides representing a cross section of the American business community in terms of number of employees, the Chamber represents a wide management spectrum by type of business and location. Each major classification of American business -- manufacturing, retailing, services, construction, wholesaling, and finance -- numbers more than 10,000 members. Yet no one group constitutes as much as 32 percent of the total membership. Further, the Chamber has substantial membership in all 50 states.

The Chamber's international reach is substantial as well. It believes that global interdependence provides an opportunity, not a threat. In addition to the 61 American Chambers of Commerce Abroad, an increasing number of members are engaged in the export and import of both goods and services and have ongoing investment activities. The Chamber favors strengthened international competitiveness and opposes artificial U.S. and foreign barriers to international business.

Positions on national issues are developed by a cross section of its members serving on committees, subcommittees, and task forces. Currently, some 1,800 business people participate in this process.

STATEMENT
on
THE COMMON GOOD:
FORGING PUBLIC/PRIVATE PARTNERSHIPS
before the
SUBCOMMITTEE ON CHILDREN, FAMILIES, DRUGS AND ALCOHOLISM
of the
SENATE COMMITTEE ON LABOR AND HUMAN RESOURCES
for the
U.S. CHAMBER OF COMMERCE
by
William T. Archey
March 10, 1992

I. INTRODUCTION

The U.S. Chamber of Commerce commends the Subcommittee on Children, Families, Drugs and Alcoholism for recognizing the importance of public/private partnerships in fostering a competitive work force and in promoting our nation's economic vitality. We also appreciate the opportunity to present the business community's views on this critical issue.

The Chamber has recently embarked upon a strategic and comprehensive "Human Capital Investment Initiative." This effort will coordinate U.S. Chamber policy so that a number of human resource, taxation, economic, and international policy issues with specific application to the American work force fall under one umbrella. The Chamber has formed an interdisciplinary task force to examine how these diverse issues affect investment in the American work force. The U.S. Chamber also will work with federal agencies to identify potential public/private partnerships that are national in scope.

This testimony emphasizes what must be done to prepare the work force of the 21st century. We examine economic, demographic, and education trends, as well as international factors that greatly affect U.S. competitiveness and impose an urgency in dealing with

related problems. In addition, we provide examples of innovative public/private partnerships.

II. ECONOMIC, COMPETITIVE, DEMOGRAPHIC AND TECHNOLOGICAL TRENDS AFFECTING THE U.S. WORK FORCE

A. Technological and Work Place Trends

America faces an enormous challenge in adapting to a number of major demographic, education, and technological trends. Current demographic and education trends are making it extremely difficult for employers to recruit employees who possess the requisite academic and technical skills. Changes brought by technological acceleration have changed the nature of jobs, leading employers to require higher skill levels than ever before.

Sophisticated technology rapidly is changing the way Americans work and live. There was a time when any high school graduate with a basic mechanical aptitude could expect to find meaningful employment in industry. That day is gone. In today's workplace, a growing number of employees on the factory floor must be highly literate and adept at using computers. Skill requirements are changing dramatically and increasingly require independent judgement as well as analytical and interpersonal skills.

According to the Bureau of Labor Statistics (BLS), between 1990 and 2005 there will be faster rates of employment growth for occupations requiring higher levels of education and slower rates for those requiring less formal education or training. The demand for white collar work is expected to escalate over the next decade.

- Executive, administrative, and managerial occupations will increase by 3.4 million jobs or 27 percent between 1990 and 2005.

- Professional specialty occupations will increase by 5.1 million positions or 32 percent.
- Employment in technology-related fields will increase by 37 percent -- the highest growth rate for any occupational group.
- Manual labor positions will continue to decline -- from roughly 40 percent of all jobs in 1970 to 12.25 percent in 2005.

Projected occupational and training trends are not limited to entry-level workers alone. Over 70 percent of today's workers will still be in the work force ten years from now. Their training and retraining needs will be immense. The American Society for Training and Development (ASTD) reports that:

- Fifty million workers, or 42 percent of the work force, will need additional training within the next ten years to keep pace with employer skill demands.
- Sixteen million workers will need skills and technical training; 5.5 million will require executive, managerial, or supervisory training; 11 million will need customer service training; and 17 million will require training in basic skills.
- Approximately 37 million workers will need entry-level training.
- Attached to these training needs is an enormous price tag for employers, who already spend more than $30 billion in training, retraining, and remedial education each year.

Other trends are emerging. One relates to a major emerging sector of the work force -- the "blue collar elite." Although blue collar workers may not have earned a four-year college degree, they are likely to have a vocational technical education

background. Increasingly, this includes two years of community college. These workers will be highly skilled, computer literate, and conversant with many of the advances in manufacturing technology. In the manufacturing sector, these workers will add significant value to a product, even when the final product itself is not necessarily "high-tech."

Another significant trend relates to new corporate organizational arrangements. As corporate America restructures, there will be fewer layers of management and bureaucracy between senior executives and line workers. In addition, the workplace will be organized increasingly around task forces and peer groups. These new organizational arrangements would suggest that all existing employees and future graduates will require more than basic analytic skills. They will need training in collaborative settings, where the emphasis will be on a group rather than on an individual.

B. Demographic Trends

Dramatic demographic changes predicted for the years ahead will significantly affect the supply of qualified workers. The BLS reports that the civilian labor force (including those employed or looking for work) will grow by 26 million or 21 percent between 1990 and 2005.

The composition of America's work force also will be altered dramatically. According to the U.S. Department of Labor's Bureau of Labor Statistics, roughly 86 percent of workers in today's labor force are White. By 2000, these percentages will have begun to change dramatically; of the net new workers entering the labor force in 2000, only 48 percent will be White.

C. Education Report Card

A direct relationship exists between school performance and the ability of employers to find qualified workers. Current trends suggest that our public schools are not producing graduates capable of performing the complex and knowledge-intensive jobs of the future.

- The U.S. national dropout rate continues to hover around 30 percent, and exceeds 50 percent in many inner-city locations.
- One in every eight 17 year-olds has reading and writing skills below the 6th grade level.
- Six percent of 11th graders understand algebra, and only half compute well enough to use decimals and fractions or recognize geometric figures.
- About four in ten high school students have a "moderate" understanding of science, but only seven percent have any degree of sophisticated understanding of the subject.

U.S. students rank poorly when it comes to international comparisons as well.

- In six math and science subject categories, U.S. student achievement recently ranked no better than ninth out of thirteen nations.
- Roughly half of all doctorates from U.S. universities in the fields of engineering, mathematics, and computer science are earned by foreign-born students – up from 20 percent two decades earlier (see Attachment 3).
- Similarly, the number of natural science PhDs earned in U.S. universities by foreign students increased 105 percent from 1977 to 1989, while the number for U.S. students actually fell 5.8 percent (see Attachment 4).

- The U.S. ranked 11th out of 15 countries in terms of the number of 13-year old students with a "positive attitude toward science."

Exacerbating these concerns are "non-educational" problems often associated with public schools, such as drugs, truancy, and violence. According to the Children's Defense Fund:

- Teenage pregnancy rates have escalated to the point that, every day, 1,293 teenagers give birth.
- Every seven minutes a high school student is arrested for drugs.
- Roughly 135,000 students carry a gun to school each day.

Regrettably, the problems associated with these trends are not left at the schoolhouse door upon graduation. Issues of drug, alcohol abuse, and worker violence manifest themselves daily and are frequently outgrowths of problems experienced during early childhood/adolescence.

In addition, a recent collaborative study by the U.S. Departments of Commerce, Education, and Labor outlines difficulties employers face in recruiting qualified workers.

- At a major advertising firm in Minneapolis, only 1 in 20 applicants for secretarial positions is qualified, and only 1 in 10 of those seeking supply and mail clerk jobs is qualified.
- Only 20 percent of persons seeking a position with a leading advanced electronics firm can pass a 7th grade English comprehension test or 5th grade math test.
- The percentage of applicants passing a basic math test at a major money-

center bank of New York declined from 70 percent in 1983 to 55 percent in 1987.

- In 1990, a New York-based management consulting firm, and the Hudson Institute released findings from a survey of 645 U.S. companies. All respondents reported difficulties in recruiting qualified staff in every employee category -- particularly secretarial, skilled-crafts, technical, and professional workers.

Problems concerning the growing skills gap are not exclusive to large corporations. Small businesses, which employ roughly one-half of the nation's private-sector labor force, are directly affected. Traditionally, small businesses are the employer of first resort. They provide the first jobs to students entering the job market for the first time. That also means that they provide the initial job training as well. After bearing the cost of basic job training, they often see newly skilled employees move on to larger businesses that are more competitive in terms of salary and benefit levels.

III. GLOBAL COMPETITIVENESS

Today's world is economically interdependent, characterized by new and aggressive economic competitors. America's once-unquestioned leadership is now neither solid nor certain. A stubborn recession masks deeper economic problems: huge trade and budget deficits and disturbing trends in productivity, infrastructure, and quality of the work force.

There is ample evidence that U.S. competitiveness is eroding:

- According to the U.S. Bureau of Labor Statistics (BLS), between 1977 and 1990, the U.S. ranked last in terms of productivity growth per employee compared to

Japan, France, Germany, Italy, and the United Kingdom (See Attachment 1).

- Of the total U.S. work force, more than 20 percent are considered functionally illiterate. In Japan, only two percent of the work force is functionally illiterate.
- According to the BLS, between 1960 and 1990, the U.S. ranked last in terms of change in real output per worker compared to Japan and Germany, although we remain ahead of both in worker output. (See Attachment 2a & 2b).

The challenges facing the U.S. in the global arena -- competition from Europe and Asia, economic revival in Latin America, and the accelerating evolution of technology and global interdependence -- all signal unprecedented change. The U.S. must adapt to these realities or face economic stagnation.

Increasingly, competitiveness will accrue to those countries which have skilled, well-trained workers that can add significant value to a product, even when the final product itself is not necessarily "high-tech." Are improvements in U.S. "human capital" keeping pace with these requirements? Will our education system supply enough workers with the sophisticated skills needed for us to compete in the emerging knowledge-based world economy? Unless current trends are altered radically, the answer would appear to be "no."

The internal training programs of American companies compared to their Japanese competitors warrants punctuation. One reason the Japanese excel in manufacturing is their obsession with constant training and retraining of workers and the competitive advantages that accrue to Japanese companies as a result. American business has come to realize the importance of training -- not just for mid-level and senior executives, but for all employees, particularly those who make the products. This translates into an awareness that training

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A 1984 poll by Group Attitudes Corporation (New York) found that 75 percent felt the degree was useful in securing a job. Furthermore, 80 percent felt it was good preparation for further study in a four year program. This is a great story that bears repeating -- nationally.

C. Research and Integrate International Models

Two countries which have adopted fairly long-term policies in preparing their work force for jobs of the future are Germany and France. In Germany, two-thirds of all secondary school students enter the centuries-old "dual system," under which compulsory-school graduates choose among over 400 different trades and look for an employer willing to take them as an apprentice. The "dual system" kicks in for children who, at an early age, are "tracked" into a non-academic course of study.

The "dual system" is a partnership of government and private industry to produce skilled workers in both the theory and practice of their trade. That trade is learned on the job and in vocational school, and supplemented occasionally by courses in specialized training centers.

The system is premised on the principles that credentials count and basic education levels are a prerequisite of training. The German Chamber of Trade and Craft (representing smaller companies) and the Chamber of Industry and Commerce (representing larger companies) advise local governments on apprenticeship and education standards, supervise apprenticeship training, and operate vocational training centers. Interestingly, about 50 percent of Trade & Craft member companies are involved in the dual system, but

only about 25 percent of Industry and Commerce member companies are involved. There are at present over 600,000 apprenticeships in Germany.

In 1982, the French government created an experimental "Missions Locales" program to help young people make a transition from school to work. The "Missions Locales" were established to deliver at a single point (one-stop-shop) in the community a wide range of social, economic, and educational services offered by public and private agencies, including job training, work experience programs, adult literacy, health & welfare services, housing & transportation assistance, and individual or family counseling. The purposes include:

- Guidance and assistance to youth (ages 16-25) "in difficulty" (in 1987, about 170,000 of 400,000 youths "in difficulty" were involved in the Missions Locales).
- Establishment of local job training and education programs for young people.
- Generation of new jobs and other creative activities.

To facilitate transition from school to work, the Missions Locales act as local agents for three programs: (1) public and community works projects; (2) internships in private companies; and (3) professional job training. The Missions Locales enjoy the support of both the conservative and socialist parties.[1]

D. Fully Integrate Innovative Promising Technologies

Educational technology is gaining national recognition as an effective tool for making schools more efficient, helping teachers to individualize instruction, and affecting positively how and what children learn. Computer-based instruction, a major form of educational

[1]Northdurf, W.E. (1989), "Schoolworks: Reinventing Public Schools to Create the Work Force of the Future," Brookings Institute, Washington, D.C.

technology, can virtually transform the way children are taught.

- Fortune (Spring, 1990) reports that computer-based instruction captivates students and promotes the skills that business values highly -- problem solving, teamwork, and familiarity with technology.
- Of the 1,100 teachers surveyed by the Wirthlin Group in 1989, 64 percent agreed that computers help stimulate the interest of students most at risk of dropping out.
- In Volusia County, Florida, a computer-based adult literacy program raised the reading ability of 300 high school students from a 6th to almost a 9th grade level.

In particular, computers and information technologies hold great promise for rural America, because they reduce the importance of distance and space -- two factors that disadvantage rural areas. According to "Rural America at the Crossroads: Networking for the Future," a study commissioned by the Joint Economic Committee of Congress and by Senators Charles E. Grassley and Orrin G. Hatch, rural communities with modern communication technologies can more easily deal with their problems. Using advanced technology, a rural business can link to other businesses, or access major markets, just as easily as a business in an urban area. Rural school districts can receive instruction employing the latest learning developments via satellite network. Furthermore, in areas where education funding cutbacks have limited a community's ability to offer special courses in math, science or the humanities, technology can bring top-notch instructors into the classroom using interactive computer technology or television.

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Business and government leaders are joining forces to implement computer-based learning systems into the schools.

- Since 1979, Apple has donated more than $60 million in computers and equipment.
- IBM has provided $50 million in computers and training over the same period, and will spend another $50 million in the next five years.
- Mattel is donating computers to learning-disabled students in Los Angeles, with hopes of expanding this effort into a nationwide program.
- Jostens Learning Corporation, a subsidiary of Jostens, Inc., is promoting technology-related partnerships between education, business and government leaders and has helped thousands of financially needy school districts purchase and obtain various forms of computer-based learning programs.

State and local chambers are taking action as well.

- The Florida Chamber of Commerce has spearheaded an effort to make instructional technology a fundamental component of education restructuring throughout the state.
- Utah is in its third year of an initiative that has placed computers and other forms of instructional technology in each of the state's 40 school districts and four colleges of education.
- The Pennsylvania, South Carolina, and Texas chambers are among other state chambers becoming leaders in the educational technology field.

There are steps that can be taken at the federal level to help facilitate the

implementation of educational technology in schools throughout the United States. The federal government may not have adequate resources alone to make the financial investment needed to transform American school systems, but it can provide direction and play a leadership role -- all in an effort to make educational technology a part of this decade's education reform agenda.

Based upon goals set forth in President Bush's America 2000 strategy, the U.S. Chamber of Commerce, the Corporation for Public Broadcasting, and the Federal Coordinating Council on Science, Education and Technology (FCCSET), on Education and Human Resources are developing the "Community Learning Network" -- a national learning technology and information delivery system that will interconnect the nation's schools and will be financed through "shared usage" by the public and private-sectors. This project has positive budgetary implications and should have the support of education leaders.

The goal for the year 2000 will be to have 50 million American manufactured high performance computers in 110,000 schools tied into the network. The Community Learning Network would reach every city, town, and locale in America using high performance systems to bring information and communications tools to enhance education for students, teachers, and adult learners alike. The Japanese have committed $250 billion to a lesser program.

The U.S. Chamber and its local members are in a position to involve a substantial customer base to use the Community Learning Network delivery system for their training needs, ensuring its economic viability. In addition, federal, state and local governments, along with business and military organizations have large numbers of personnel throughout

the country that could receive training and professional education through the Community Learning Network when not being used by the nation's schools.

By delivering training to the work site, these organizations can save millions of related travel dollars. With less than one percent of the federal government's multi-billion dollar training-related travel and per diem budgets, 120 network sites could become operational, serving federal agencies and the nation's education institutions as well.

The proposed integrated information system is composed of a variety of technologies that include E-mail, computer-assisted programming, interactive audio/audio-graphic technologies, interactive video programming, and both live two-way and one-way interactive video technologies.

A demonstration of this technology is housed at the Chamber's headquarters. We would be pleased to arrange for a demonstration for this Committee.

E. Center for Workforce Preparation and Quality Education

The Chamber believes that business can play a lead role in promoting successful public/private education partnerships across America, particularly those that are locally based and community wide. In April, 1990, the U.S. Chamber of Commerce created the Center for Workforce Preparation and Quality Education, to represent business in this effort. The Center, created to mobilize a national grassroots education reform campaign, is unique because it draws upon the Chamber's infrastructure of 180,000 corporations, 2,900 state and local chambers of commerce, and 1,300 trade and professional organizations. Its mission is to develop a common program and message for local business leaders and chamber of commerce executives to use in helping to achieve education reform. A major

role of the Center is to equip business and chamber leaders with timely, thoughtful, and action-oriented materials on how to enter into practices that successfully will meet the unique education dynamics of any community nationwide.

The Center has undertaken a number of endeavors to assist local communities in their quest for educational excellence. In the spring of 1990, the Center surveyed its 2,900 state and local chamber members to determine the nature of their education reform interests and activities. The Center has compiled their nearly 1,300 responses into a data base of local chamber reform programs, and has learned that 70 percent have active education committees. In Connecticut, for example, 12 of 16 chambers responding to the survey have formed an education committee; 30 of 41 chambers in Indiana have education committees.

Additionally, the Center is currently involved in a school financing initiative to examine the efficiency and effectiveness of school expenditures. Simply put, in a climate of limited resources (federal, state, and local), we want to assure the public that dollars get to the students. Our preliminary results should be available later this year. However, early results indicate that less than 50 percent of some school budgets do not make it into the classroom for student services and instruction. We would be happy to report back to this committee, later this year, with the final results. Regarding the Job Training Partnership Act (JTPA) program, the Chamber's Center is completing a nine-month study analyzing local chamber of commerce involvement in this important federal initiative. Preliminary results are being prepared for the National Commission on Employment Policy, but the general indication is that local employer knowledge and involvement with JTPA – through

chambers of commerce -- has decreased. This is particularly disturbing since JTPA is predicated on the active involvement of the business community at the local level.

F. Innovative Public Private Partnerships

The private-sector already has taken a lead role in designing and implementing partnerships across America. What follows is just a sample.

1. Wichita's Machinist Apprenticeship Program (MAP) The Wichita Chamber of Commerce helped establish a model Machinist Apprenticeship Program (MAP) to alleviate a chronic shortage of journey machinists. Although this shortage adversely affected large industries, it was and continues to be particularly challenging for local machine shops employing less than 200 people. As the personal aircraft capital of the world, this community is providing this meaningful training opportunity for promoting young apprentices.

After a careful selection process including thorough testing and assessment, 20 apprentices enter training each semester and sign a contract agreeing to 8,000 hours of on-the-job training plus 576 hours of classroom instruction provided by the Wichita Area Vocational Technical School. Local employers provide the job training and compensate for books, tuition, and a $600 fee to support the overall program. Approximately twenty-five percent or $19,360 of the total budget for MAP -- $78,400 -- is federal funds.

2. Cities in Schools A major focus for community-problem solving activities is the critical needs of youth at risk: literacy and education support, job training, mentoring, counseling and crisis intervention. Cities In Schools (CIS) is a national non-profit organization with 14 years of successful experience in developing local public-private partnerships to address the multiple needs of youth at highest risk of education, social, and economic failure. The CIS

process is a unique model that engages the community in collaborative action: it brings into the schools teams of trained, caring professionals and volunteers who can meet the students' needs for educational support, counseling, and employment readiness. A prime example of a Cities In Schools effort is the non-profit organization's partnership with the U.S. Department of Justice and Burger King.

Burger King has chosen education as the major beneficiary of its corporate contributions. Among its endeavors is a "Burger King Academy," a multi-million dollar program designed to combat the chronic dropout problem in the U.S. Burger King has joined with the U.S. Department of Justice and Cities In Schools to organize and implement this effort. In September 1989, this public/private venture announced eight "corporate academies" that are fully accredited high schools. Each of these alternative high schools serve about 125 students in grades 9 through 12. Using the Cities In Schools model, the corporate academy brings together a vast array of existing public and private resources to create what becomes a city within the schools. In addition to academic instruction by certified teachers, students receive internships and jobs, and skills classes. Students also receive specialized counseling and social services such as child care and public assistance, available right in the school. The U.S. Chamber of Commerce/Center staff have initiated preliminary discussions with representatives from the U.S. Department of Defense (DoD) and Cities In Schools concerning the feasibility of establishing a "Chamber Community Service Fellows" program. The purpose of this program is to develop and place highly trained senior U.S. Department of Defense personnel in state and local chambers of commerce in a community service capacity. Targeted will be those individuals with a strong

interest in the education of at-risk youth and community services in general.

3. Corporate Efforts in Education Fortune 1000 companies and small businesses are entering the education reform arenas. A few samples follow:

Entergy Corporation, a regional utility company in New Orleans, is involved in a comprehensive set of economic development and education programs known as "New Opportunities." All are designed for easy duplication by other businesses and industries interested in supporting education in their communities. Among Entergy's literacy efforts are mobile automated learning laboratories, providing basic literacy as well as basic and new workplace skills to individuals at three sites in a three state region. Another is its institutes/academies for students, teachers and administrators, providing information about business opportunities in the South as well as skills in counseling, time management, and other such subjects.

General Electric supports many programs. One of GE's major education efforts is its College Bound program. This is a $20 million program aimed at doubling the number of college-bound students from selected poor and inner-city schools, and reportedly is based in part on GE's experiences with its efforts of the 1980s. (See GE Statement from Mar. 5)

Another innovative program is Lancaster Laboratories' Family Center. This 460 employee independent, analytical laboratory, located in Lancaster, Pennsylvania, created the second intergenerational center in the United States. The first was established at Stride Rite Shoes in Cambridge, Massachusetts. This center provides both child and elder care and promotes joint activities. These services are available to their employees as well as others in the community if spaces are available. Recently, they opened a room for mildly

ill children, thus enabling parents to go to work and visit with their sick children during the work day. They also have an after school care program and summer day camp.

CONCLUSION

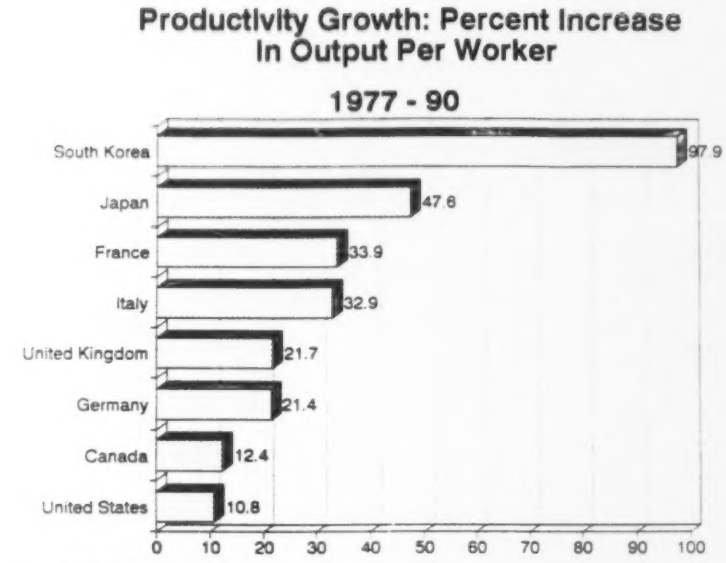
Like a countless number of American corporations, the U.S. Chamber of Commerce has embarked upon a process to analyze the human dimension of our world competitive position. Clearly, the final outcome of this process will build upon the numerous public/private partnerships identified at these hearings. However, the critical issue is not developing policy, but to assure its implementation. To that end we hope this hearing is the beginning of a long and fruitful dialogue with this subcommittee and other members of Congress.

As stated by William Lurton, Chairman of the Board of the U.S. Chamber of Commerce and CEO of Jostens, Inc., "America has overcome such challenges in the past and can do it again. This will require new levels of pragmatism, innovation, and a willingness to transcend the adversarial politics of the past." It is time for us to realize that America's economic well-being and quality of life will depend on how well we prepare our young people for entering the work force.

We live in a new world. The events over the last three years have made us realize that we can no longer insulate ourselves. Our national security will depend on our economic vitality and technological prowess. While this may sound conceptually sophisticated, what it means is that the student at Fairfax High School in Fairfax, Virginia can no longer consider his or her competition to be limited to the student at a Montgomery County, Maryland High School. He now must compete with high school students in Seoul,

Lyon, and Dusseldorf.

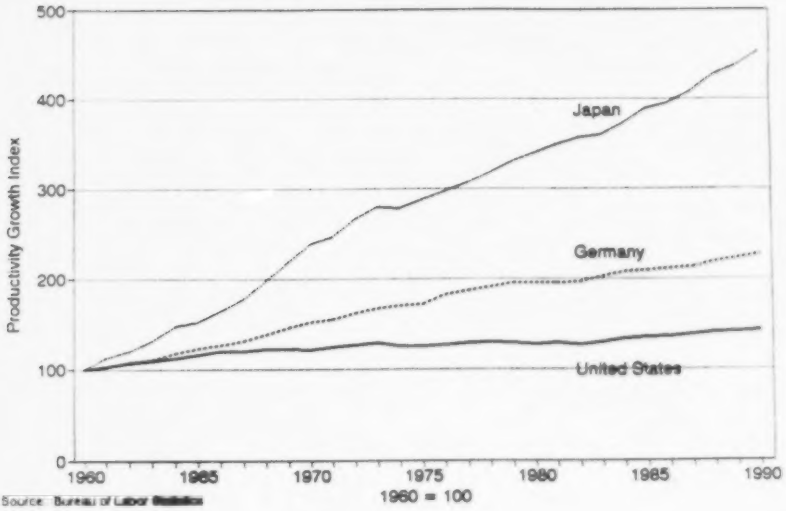
Thank you for the opportunity to appear before this subcommittee. I would be pleased to respond to your questions.



Source: Bureau of Labor Statistics

ATTACHMENT 2A

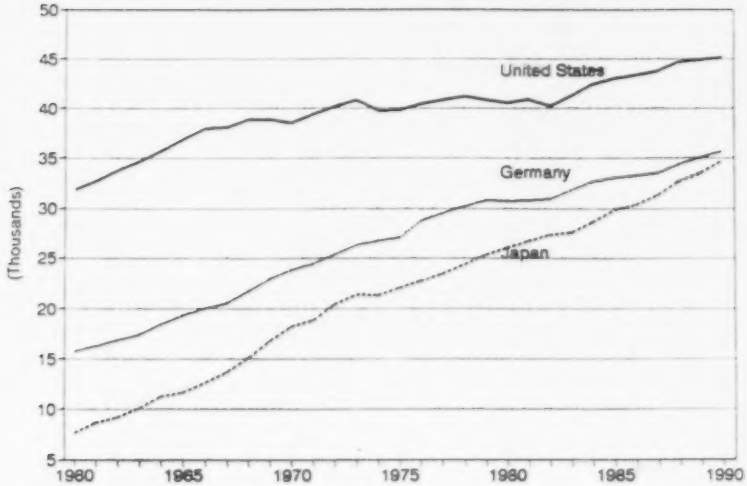
Productivity Growth: 1960-1990
Change In Real Output Per Worker



Source: Bureau of Labor Statistics

ATTACHMENT 28

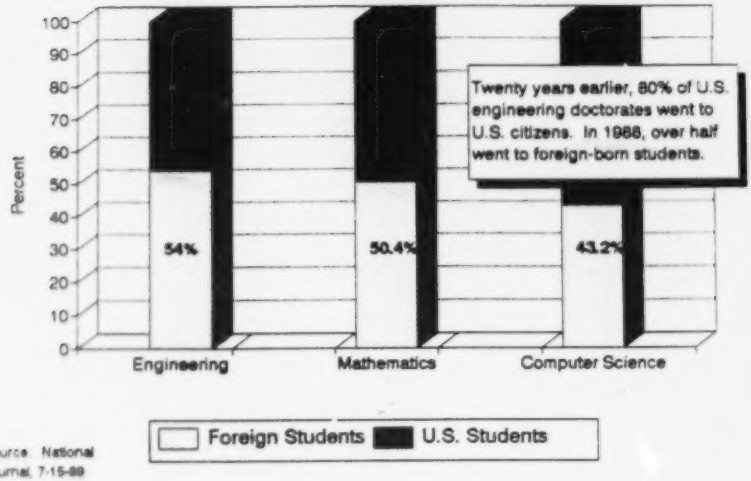
Average Real Output (GDP) Per Worker (U.S. 1990 Dollars)



Source: Bureau of Labor Statistics

ATTACHMENT 3

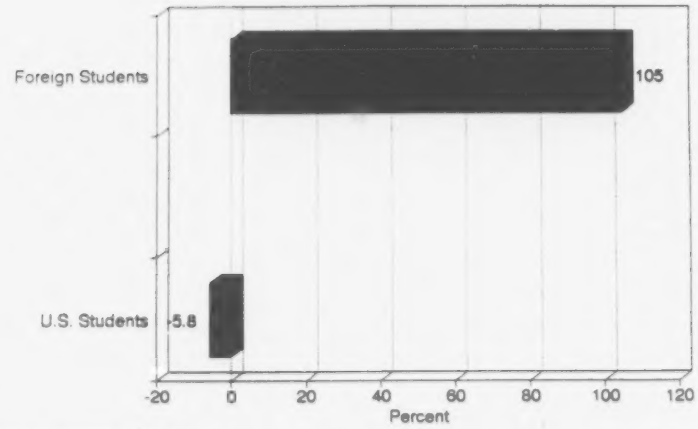
Doctorates From U.S. Universities Earned By Foreign-Born Students 1988



Source: National Journal, 7-15-89

ATTACHMENT A

Recipients of Natural Science PhD's From U.S. Schools: % Change 1977-89



Source: Newsweek, Dec. 2, 1991

U.S. DEPARTMENT OF LABOR

SECRETARY OF LABOR
WASHINGTON, D.C.

The Honorable Dale E. Kildee
Chairman, Subcommittee on Elementary,
Secondary, and Vocational Education
Committee on Education and Labor
U.S. House of Representatives
Washington, D.C. 20515

Dear Chairman Kildee:

Thank you for your letter requesting information on **linking schools and work** for your hearing record.

The United States is the only major industrialized country without a coherent strategy for linking school and work. Our education system does a good job of guiding secondary students into colleges and universities, but inadequate attention is paid to the "forgotten half" who plan to enter the workforce directly from high school.

The Department of Labor (DOL) strongly supports the concept of youth apprenticeship as a method for preparing our youth for the workplace of tomorrow. We recognize, however, that widespread implementation of youth apprenticeship models is difficult because of the level of change required of schools (secondary and post-secondary), business and labor representatives, parents, and youth. Youth apprenticeship has great potential to:

- Motivate youth to stay in school and become productive citizens;
- Promote achievement of high academic standards;
- Link work and learning by linking classroom curriculum to worksite learning and work experience;
- Enhance students' prospects for immediate employment after leaving school on paths that provide significant opportunity for continued education and career development; and
- Engage employer participation in the education of youth to insure development of a skilled, flexible, entry-level workforce.

To encourage widespread adoption of youth apprenticeship, President Bush on May 13 transmitted youth apprenticeship legislation to Congress. The National Youth Apprenticeship Act of 1992 will enable States and local communities to implement a uniquely American system of voluntary youth apprenticeships. The bill will offer students in the 11th and 12th grades, an alternative program of study which integrates academic instruction with work-based learning, leading to a meaningful high school diploma, a skills certificate, and opportunity for employment and post-secondary education. The bill includes as essential elements of Youth Apprenticeship Programs strong worksite learning and a work experience component under the guidance of a mentor. Under this proposal, a Federal-State-local framework has been developed to encourage the development of partnerships among business, schools, and labor organizations on the local level to establish locally customized models. (Enclosed is a one-page summary of the bill's provisions.)

In support of the President's legislative initiative, I am forming Federal-State partnerships with six States which are currently implementing youth apprenticeship programs and legislation. The DOL will begin a cooperative effort with your home state, California, Iowa, Maine, Oregon, and Wisconsin that will continue efforts of the States in developing systems for youth apprenticeship. The DOL will announce, in the next few weeks, a competitive round of demonstration grants that will allow for experimentation and implementation of youth apprenticeship programs at the local level.

Over the past two years, DOL has actively engaged in assisting youth prepare for entry into the workforce. The Secretary's Commission on Achieving Necessary Skills (SCANS) was established by DOL to define, based on industry needs, the skills and proficiency levels students need to obtain entry-level jobs with career opportunities. The SCANS released its final report this month, based on extensive worksite research, describing skills in 50 occupations.

The SCANS findings provide a good foundation for a system of voluntary, industry-based skills standards and certifications, that the President called for in the America 2000 and Job Training 2000 initiatives. Voluntary, industry-based skill standards and certificates may be used to inform decisionmaking in all sectors of the economy. Industries may use skill standards as a vehicle for informing training providers and prospective employees of skills required for employment. Workers may choose to obtain certification of their skills to help protect against dislocation, to pursue career advancement, or to enhance their marketability by assembling a work portfolio based on training to industry standards.

To explore the development of a voluntary system, DOL established last year the National Commission on Work-Based Learning. The Commission and the Departments of Labor and Education are now pursuing a three-part strategy for developing skill standards and worker certification opportunities. These three parts are:

- A public dialogue to provide interested parties opportunities to present their views for the record, at a series of public meetings across the country;
- Research on existing standards both in the United States and abroad; and
- Pilot projects in selected industries to test feasibility.

In September 1990, DOL's Employment and Training Administration (ETA) funded six organizations to develop and implement alternative youth apprenticeship models, all of which use some form of worksite learning in combination with traditional in-school education. The ETA plans to publish an initial report of our findings, based on our demonstrations' experience after more than a year, to help others in the implementation stage.

The ETA is also developing material to assist youth apprenticeship programs in communities across the Nation. We have been gathering, evaluating, producing, and disseminating information on learning theories, youth apprenticeship model design, "best practices," and lessons learned from successful programs. A video and a "how-to" guide are being disseminated to schools, local community groups, and businesses for use in developing their own youth apprenticeship programs.

Youth Apprenticeship is gaining momentum on the Nation's agenda. I look forward to working with Congress as legislation is being considered to develop a national framework for youth apprenticeship. We look forward to presenting testimony before the Subcommittee on Employment Opportunities later this month.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

LYNN MARTIN

Enclosure

BEST COPY AVAILABLE

National Youth Apprenticeship Act of 1992

- **Purpose**: To define the essential elements of a Youth Apprenticeship Program to meet high academic standards and promote the development of a systematic transition from school to work nation-wide utilizing the Youth Apprenticeship model.

- **Method**: A Federal-State-Local framework is outlined in the bill to encourage the development of partnerships among business, schools and labor organizations on the local level to establish locally customized, high skilled, career opportunities for today's youth.

- **Definition**: A Youth Apprenticeship Program offers students, beginning in the 11th grade, an alternative program of study which integrates academic curricula, workplace skills and real work experience leading to high school graduation (including post-secondary options) and preparation for the world of work.

- **Criteria**: To be certified under the Act, a Youth Apprenticeship Program must provide for:

  - *Academic Instruction*:

    - Must meet State educational standards, world class standards in at least the five core subject areas, and any voluntary national standards.

  - *Work-based Learning*:

    - Offered at school or on the job, teaches to national standards, if available and includes a planned program of instruction and tasks to be mastered.

  - *Worksite Learning and Work Experience [minimum of 20% of first academic year, 40% of second and continuing years]*

    - Includes a part-time, paid position that reinforces the requisite job skills and generic workplace competencies and incorporates guidance from a worksite mentor.

  - *Youth Apprenticeship Agreement*:

    - Requires commitment of all partners: students, parents, employers, labor organizations and schools, to the successful implementation of the program.

    - Identifies credentials available (academic and industry/occupational), wage scale and hours of work.

  - *Advice and Guidance*:

    - Students are provided formal career and occupational counseling, post-secondary and specialization options, and information on individual assessment.

- **Administration**

  - *Federal*

    - Secretary of Labor chairs an interagency committee including Education and Commerce to develop procedures and regulations, review state plans for youth apprenticeship implementation. The Department of Labor will monitor programs compliance with national criteria and safeguards while providing support and technical assistance.

  - *State*

    - The Governor is responsible for developing a state plan of action, including resources, timetable, assistance to local partnerships, and adherence to the highest educational standards and national youth apprenticeship criteria.

  - *Local*

    - Employers, in collaboration with labor organizations if appropriate, help schools in tailoring curricula to the worksite, and supervise worksite learning and work experience. Private Industry Councils help select occupational categories for apprenticeship in highly demanded fields.

- **Authorization**

  - *New Appropriations*

    - $50 million for Fiscal Year 1993 for States' planning and curriculum design assistance, research and demonstration projects.

    - $5 million for FY 93 to remain available for three fiscal years for studies and reports.

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